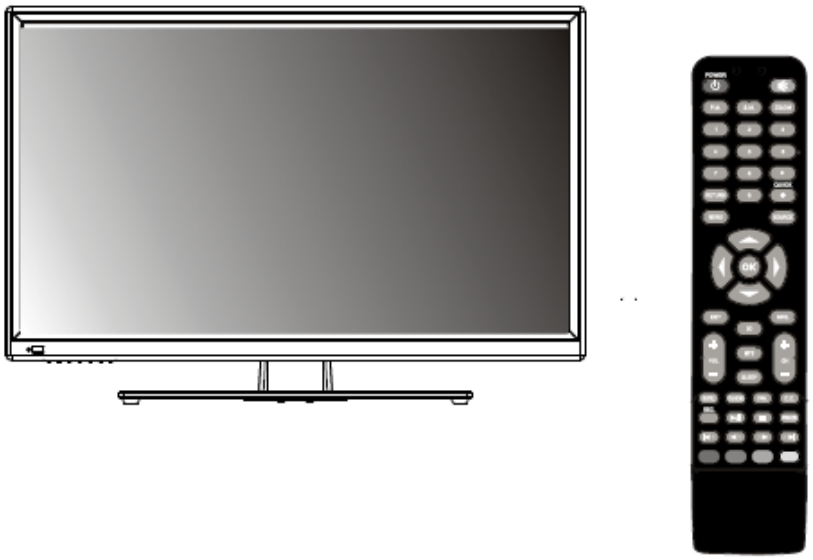
SERVICE MANUAL

6M61S CHASSIS



Design and specifications are subject to change without prior notice. (Only Referrence)

SIZE:A5

Description: SERVICE MANUAL 6M61E	
MODEL.	**Brand Name:**
JOB NO.	
Engineering Dept:	
Artwork By: 马杰	**Date: 2013-8-8**
Checked By:	**Date:**
Approved By:	**Date:**

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Technical Specification

1. Application Area:

This product standard is use for LED 6M61E chassis.

2. Specification:

All the standard are measured under following conditions without other specification.

2.1 Ambient Temperature: 20+/-5℃

2.2 Relative Humidity: 65+-10％

2.3 Power Supply Voltage: Standard Input Voltage(100～240V AC 50/60HZ)

2.4 Adjust after 20 minutes warm-up.

3. Test and check method:

3.1 Capability: According to nation test standard

3.2 Safety:_____standard

3.3 EMC:_____standard

Technical Specification

4. Safety and Regulation

NO.	Item	Min	Typ	Max	Unit	Remark
1.	Force Stability-Inclineplane Tip Test		10		deg	
2.	Force Stability-Level Tip Test		100		N	
3.	Isolation Gap AC-AC/AC-DC	3			mm	
4.	Isolation Gap	6			mm	
5.	Power consumtion Max				W	
					W	
					W	
					W	
6.	Power consumtion Standby			1	W	
7.	Dielectric Voltage	3			kV	
8.	Isolation Resistance	4			MΩ	
9.	Leakage Current		5		mApp	
10.	Power cord captivity		40		N	
11.	Flammability—Back Cover		PASS			
12.	Sharp edge		PASS			
13.	UL Compliance		NO			
14.	FCC Compliance		NO			
15.	CDRH Radiation Compliance		NO			
16.	CSA Compliance		NO			
17.	CEB Compliance		NO			
18.	CE Compliance					Base on different order
19.	CB Compliance		YES			

5. Video

NO.	Item	Min	Typ	Max	Unit	Remark
1.	Linearity Distortion,Verticl		1		%	
2.	Linearity Distortion,Horizontal		1		%	
3.	Trapezoidal Distortion,Verticl		1		%	
4.	Trapezoidal Distortion, Horizontal		1		%	
5.	Over scan, Verticl	93	95	97	%	
6.	Over scan, Horizontal	93	95	97	%	
7.	Brightness Maximum		280			
8.	Video Noise Limited Sensitivity(@S/N=30dB) VHF			51	dBuV	

Technical Specification

9.	Video Noise Limited Sensitivity(@S/N=30dB) UHF			54	dBuV	
10.	Selectivity -1.5M	35			dB	
11.	Selectivity +8M	40			dB	
12.	Tuning Range	-0.7			MHz	
13.	Resolution Horizontal		1366		Lines	
14.	Resolution Vertical		768		Lines	

6. Chroma

NO.	Item	Min	Typ	Max	Unit	Remark
1.	White Balance, X axis					
2.	White Balance,Y axis					
3.	White Balance,Color Temperature	6500	9800	12500	kdeg	12500(266,276) 9800(280,290) 6500(313,329)
4.	Color Sensitivity		30		dB	
5.	Color Burst Lock-in Range	+/-300			Hz	
6.	Color Killer Sensitivity		30		dBuV	

7. Audio

NO.	Item	Min	Typ	Max	Unit	Remark
1.	Audio Noise Limited Sensitivity,VHF-L		25		dBuV	
2.	Audio Noise Limited Sensitivity,VHF-H		25		dBuV	
3.	Audio Noise Limited Sensitivity,UHF		28		dBuV	
4.	Buzz(S/N Ratio)		40		dB	
5.	Distortion		3		%	
6.	Audio ouput,L/R,at 10% THD		6		W	
7.	Audio ouput,Center		6		W	
8.	Stereo Separation		21		dB	
9.	Speaker Impedance		8		ohm	
10.	Speaker Power rating		8		W	

8. Power

NO.	Item	Min	Typ	Max	Unit	Remark
1.	DC Voltage, Audio		12		V	
2.	DC Voltage, Tuner		3.3		V	

Technical Specification

9. External Interface

NO.	Item	Min	Typ	Max	Unit	Remark
1.	Video Input Level		1		Vpp	75 ohm
2.	Video Input Frequency Response	4.5			MHz	
3.	Video Input S/N		40		dB	
4.	Audio Input Level		0.5		Vrms	
5.	Audio Input Frequency Response			15	kHz	
6.	Audio Input S/N		40		dB	
7.	Audio Input Distortion		3		%	
8.	Audio Input Dynamic Range		2		V	
9.	Video output Level		1		Vpp	
10.	Video ouput Frequency Response		4.2		MHz	
11.	Video output S/N		50		dB	
12.	Audio output Level		0.5		Vrms	
13.	Audio output Frequency Response	80		12000	Hz	
14.	Audio output S/N		50		dB	
15.	Audio output Distortion		6		%	
16.	Video Input Level,R/G/B		0.7		VPP	
17.	Video Input Level,Component(Y,Pb,Pr)		0.7		VPP	
18.	RGB Input Resolution,Vertical			768	pixel	
19.	RGB Input Resolution,Horizontal			1366	pixel	
20.	RGB Input Horizontal Frequency			68	kHz	
21.	RGB Input Frame Rate			60	Hz	

10. The Others

NO.	Item	Min	Typ	Max	Unit	Remark
1.	Search sensitivity		40		dBuV	
2.	Clock,real time gain or loss(sec per day)		NO		sec	
3.	Software Funcitonality Test		YES			
4.	REMOCON Working sensitivity,Straight		8		m	
5.	REMOCON Working sensitivity,T/B/L/R		6		m	
6.	Close caption sensitivity		46		dBuV	
7.	Teletext sensitivity		46		dBm	
8.	Resonance of unit(sweep freq:50~1000)		NO			

Technical Specification

11. Customer Menu Setup(as shipped condition)

NO.	Item	Specification	Remark
1.	PSM	Standard	
2.	SSM	Standard	
3.	Volum	20	
4.	Mute	off	
5.	Input Mode	RF	
6.	Customer menu language	Traditional Chinese	Base on different order
7.	AVL	off	
8.	Sleep Timer	off	
9.	Auto sleep	off	
10.	Blue back	NO	
11.	Surround	off	
12.	Caption	off	
13.	Noise Reducer	Middle	

12. Reliability

NO.	Item	Min	Typ	Max	Unit	Remark
1.	ESD		4		kV	IEC-1000-4-2
2.	EFT/Burst				kV	IEC-1000-4-4
3.	Surge Immunity				kV	IEC-1000-4-5
4.	Voltage Dip Test,10ms				%	IEC-1000-4-11
5.	Voltage Dip Test,100ms				%	IEC-1000-4-11
6.	Operation Temperature				deg	
7.	Operation Humidity				%	
8.	Storage Temperature				deg	
9.	MTBF(confidence Level:90%)				hour	

Technical Specification

DTV-Productions Specification

Model #	32”
Country(West Eu./East Eu./Russia/AP/US/S.A./Japan/…)	West Eu
Brand	ODM/Skyworth
Category (Monitor/TV/Combo/Portable TV…)	TV
Panel technology (LCD / PDP)	D-LED
Market Position (High/Mid/Access,,,)	Class
Cabinet Design (Example: 01,23 series)	32
Product Nb	-
Chassis solution	MSD6306PUN
Chassis name	6M61S
Chassis PCB Standard	Skyworth RGB New Standard
Predecessor (replace)	-
MP date requested (ETD)	2013.8
MP date confirmed by supplier (ETD/ETA)	-
Status(Pre./Finish)	-
Regional requirement	
Homologation (Gostandard/CE/MPTT/CB/…)	VDE
RoHS	Yes
Power supply(100-240V AC +/-10%/...)	100-240V AC (-20%,+10%)
Power consumption working / Annual	-
Power consumption standby	<1W
Power plug(VDE/UL/BS/…)	VDE/2pins
Picture display	
Screen size : diagonale (inch)	32
Aspect ratio (16/9 // 4/3 // 15/9)	16:9
1st panel supplier : panel suppliers	Skyworth
1st panel supplier : panel reference	Skyworth
Panel Display Type(MVA/PVA/IPS/…)	TFT LCD
1st panel supplier : resolution	32”1366X768
Dynamic contrast ratio	>10000:1
Video signal process	
Comb Filter (2D/3D)	3D
Noise Reduction (adaptative/3D/…)	3D
Picture improvement (LTI/CTI,BLE,WLE,...)	LTI/CTI

Technical Specification

Color process (Gama correction/Skin correction /...)	Follow main IC
Colour preset (Cool/Neutral/Warm)	Cool/Neutral/Warm
Picture control (Bright/Con./Sharpness/Color/Tint/…)	Yes
Picture presets : Normal/Bright/Soft/Personal	Normal/Bright/Soft/Personal
Picture freeze	Yes
Multi picture : PIP (AV)/POPAV	NO
Dynamic Backlight Control	NO
LED Backlight	D-LED
Deinterlacer (No/linerar/motion adaptive/motioncompensative)	3D motion adaptive
Film mode / reverse 3:2/2:2 pull down	Yes / Yes
Full HD support (1080P)	Yes
Single scan / Dual scan (120HZ)	Single scan
Zoom type : 4/3 format	YES
Zoom type : 14/9 Zoom	NO
Zoom type : 16/9 Zoom	YES
Zoom type : 16/9 Zoom up/down	YES
Zoom type : Cinerama	YES
Zoom type : 16/9 Format	YES
Zoom type : Auto (by SCART Pin8 and WSS)	YES
Picture Auto adjustment (PC mode)	YES
3D Panel Type(PR / SG)	NO
3D Mode	NO
3D To 2D (Y/N)	NO
2D To 3D (Y/N)	NO
Left / Right Swap (For PR Panel)	NO
Sound	
Sound type (Mono/AV stereo/Stereo)	stereo
Music Power (Watt)/RMS Power (Watt)	32”:2X6W
Tone control (Bass&Treble / Graphic Equalizer)	Bass&Treble
Special sound effect (AVL / WIDE / Pseudo /…)	AVL
Suround system (Dolby / VD / SRS / BBE / …)	Built-in Surround

Technical Specification

Sound control (Volume , Balance , Mute)	Volume, Balance, Mute
Sound presets (Personal/Music/Film/News/Standard)	Personal/Music/Film/News/Standard
Headphone volume control (Separated / linked)	Yes(Linked)
Sound quality (High / Mid / Low)	
Reception and Decoding capability	
RF rangeATV	45MHz～866MHz
RF rangeDTV	VHF 177-213 MHZ, UHF 473-803 MHZ
Color System (PAL/SECAM/NTSC/PAL M,N)	PAL/SECAM/NTSC DK/I/BG/M
Audio Standard (B/G/H/D/K/K'/I/L/L')	PAL/SECAM/NTSC DK/I/BG/M
Stereo audio system (Nicam,MTS,A2,….)	Nicam ,A2
Video standard NTSC 3.58 / 4.43 (AV)/PAL 60	NTSC 3.58/4.43 , PAL
DTV SD support (DVB-T/S/C , ATSC , QAM , …)	DVB-T
DTV HD Support	MPEG2,MPEG4,H.264
MHEG5	NO
HD capability with YPbPr	Yes (720p; 1080i; 1080p@24/50/60Hz; 480i/p; 576i/p)
PC capability (up to maximum format)	32”:1366X768Hz 60Hz
HDMI capability AV/PC Format)	Up to 1080P 24/50/60HZ
Compatible video format if DVD/USB: DviX/VCD/SVCD/JPEG/AVI/MPEG2/WMV-HD/SD	JPEG/MPEG2/MPEG4/H.264/DivX (depending on license)
Compatible audio format if DVD/USB:MP3/WMA/AAC/MPEG1/…	MP3/WMA(depending on license)
Playable Discs (CD/CD-R(RW)/CD-ROM/DVD+R/+RW/-R/-RW)	NO
Card reader format compatibility	NO
Macrovision	Yes
PVR	Yes
Network	NO
User convenience	
OSD Language*	English/TBD
OSD Positioning	No
OSD Transparency Adjust	No
OSD Timeout Adjust	No
Customer Brand name(LOGO)	Yes

Technical Specification

IB languages	English
ATV Program Numbers (example: 99+3AV input)	100+7AV
DTV Program Numbers	200
Program edit (naming , sorting , skip , swap ….)	Naming / Skip / Swap
Auto Naming/Auto Sorting	No
TV Guide(DTV EPG)	EPG(next Seven-day)
Favorite program	Yes
Number of buttons on cabinet (Power; Vol+/-; Pr+/-,Menu)	Vol+/-; Pr+/-, Menu ,Source,Power
Main switch button (yes/No)	No
CCD(Closed Caption)/V-CHIP	No /No
Text Standard: (Top, FLOF,,,)	No
Teletext Level: 2.5 / 1.5	Yes
Pages for teletext	Yes
Teletext character sets ****	Yes
DVB-T teletext	Yes
Real clock	From DTV
Sleep timer	10-240 Min
Timer	Turn On / Off, Program Switch
Parent Control -Source and Channel lock (Input code forcertain channel)	Yes
Parent Control - Child lock (set the lock of the keyboard,only the RCU can control the TV)	Yes
Parent Control - Kid pass (preset the ontime, channel foreach day of the week)	No
Parent Control - Channel lock (For digital transmissionand DVD program, to filter some programms)	Yes
Calendar / Games	No
No program auto switch off	Yes
Hotel mode (Y/N)	Yes
DVD player (No/slot/tray)	No
Tuner FM (yes/No)	No
software download(RS232/CI/USB/OAD)	USB
Factory reset	Yes(in factory menu,reset the setting to shipment state)
Screen saver	Yes

Technical Specification

Blue Back	Yes
LED indicator(Power on/Standby)	Blue / Red
Connectors -Rear	
RF Input (Antenna): Air/ Cable/ 2in1	Antenna
Scart : CVBS in&out / RGB / S-VIDEO	No
CINCH video in / outAV1	1/ 0
CINCH audio in / out (No volumpe control on Audioout/can be jack 3,5mm)	1/1
S-video in	No
Component Video Input (YCrCb/YPrPb)	1
Component Audio Input (YCrCb/YPrPb)	1
VGA in / Audio L/R in / Jack audio in 3.5mm	VGA + dia. 3.5mm for audio
HDMI	2
DVI	No
Audio input for DVI	No
CINCH subwoofer out / Coaxial out (S/PDIF)	No
Headphone output connector (mm)	1
RS232 (Y/N , VGA or DB9 port …)	No
Card Readers	No
USB slot (No/1.1/2.0)	2
DVB-CI (common interface)	No
External power converter input	No
Connectors -Side	
HDMI	1
AV-IN	1
AV-OUT	NO
Component Video Input (YCrCb/YPrPb)	1
Component Audio Input (YCrCb/YPrPb)	1
Headphone output connector (dia.mm)	1
CINCH subwoofer out / Coaxial out (S/PDIF)	NO
USB slot (No/1.1/2)	1
DVB-CI (common interface)	NO
DLNA	NO
RF Input (Antenna): Air/ Cable/ 2in1	Antenna
VGA in / Audio L/R in / Jack audio in 3.5mm	VGA + dia. 3.5mm for audio in

Technical Specification

UI/RC	
UI design (font/pixel, 2D/3D graphic engine..)	SOD Standard
RC Model	Commend RCU
RC system	RGB Standard
RC # of keys	
Accessories included	
Carton	Traditional Chinese
IB	Traditional Chinese
Circuit diagram	No
Batteries	No
Product registration Card	Yes(Traditional Chinese)
AC Cable Length	1.8m
Audio Cord (Jack 3.5mm)	No
VGA Cord	No
Wallmount frame	Optional
Antenna Cable	No
6 in 1(YPbPr & CVBS) cable adapter	No
3D Glasses	YES(If have 3D mode)
General Data	
Size (W x H x D, with stand) in mm	
Size (W x H x D, without stand) in mm	
Package Size (W x H x D, without stand) in mm	
Net Weight in kg	
Gross Weight in Kg	
Design / Mechanical	
Wallmount VESA compatible (standard reference)	Yes
Adaptor for VESA wallmount compatibility	Yes
Desktop Stand (included/optionnal + ref/No)	included
Panel Tilt (Fowards/Backwards/Rotation)	No
Swivel function desktop stand (yes/No) + motorized?	No
Docking station (yes/No)	No
Floor Stand (included/optionnal + ref/No)	No
Glass shield (yes/No)	No
Finish on Front	-

Technical Specification

Finish on side	**-**
Finish on back	**-**
Finish on stand	**-**
number of colors on carton box	
Brand logo	**Customer Inlet**
Other logo	**No**
External AC/DC Power with DC power cord (yes/No)	**No**
Handle (yes/No)	**No**
Detachable speaker (yes/No)	**No**
Rating Label langages	**English**

机型							
NO	名称	位号	生产厂家	厂家型号	规格	P/N(参考)	认证标记
1	接收头	IR1	海格科技	SDR138		5300-147438-0S00	
2	扬声器	SPEAKER	中山声力	SL411-01F		5631-108104-0180	
3	晶振	Y1/Y2	陕西壹加壹	HC-49U/S		4900-124053-R000	
4	高频头	U10	Silicon lab	SI2157		471J-SI2150-0280	
5	所有IC	U6	芯智	MSD6306PUN		475C-M63061-1280	
		U7	CFEON	EN25Q32B		471R-N25323-0080	
		U1	唯隆	AOZ3015PI		4786-A30151-0080	
		U12	新晔电子	TPA3113		4722-T31130-0280	
		U13	帕太	BH3544F-E2		4740-B35440-0080	
		U5/U11	A1 半导体	AS1117L-3.3/TR-HF		47B6-A11170-03	
		U4	A1 半导体	AS1117L-3.3/ADJ		47B6-A11174-0300	
		U3	亿思达国际	MP1470GJ-Z		476A-M14700-0060	
		QA1	沛裕电子	AP2181DWG-7		47C5-A21810-0050	

IC Block Diagram

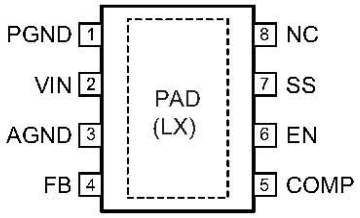
1. AOZ3015PI

Ordering Information

Part Number	Ambient Temperature Range	Package	Environmental
AOZ1051PI	-40 °C to +85 °C	EPAD SO-8	Green Product

AOS Green Products use reduced levels of Halogens, and are also RoHS compliant.
Please visit www.aosmd.com/web/quality/rohs_compliant.jsp for additional information.

Pin Configuration

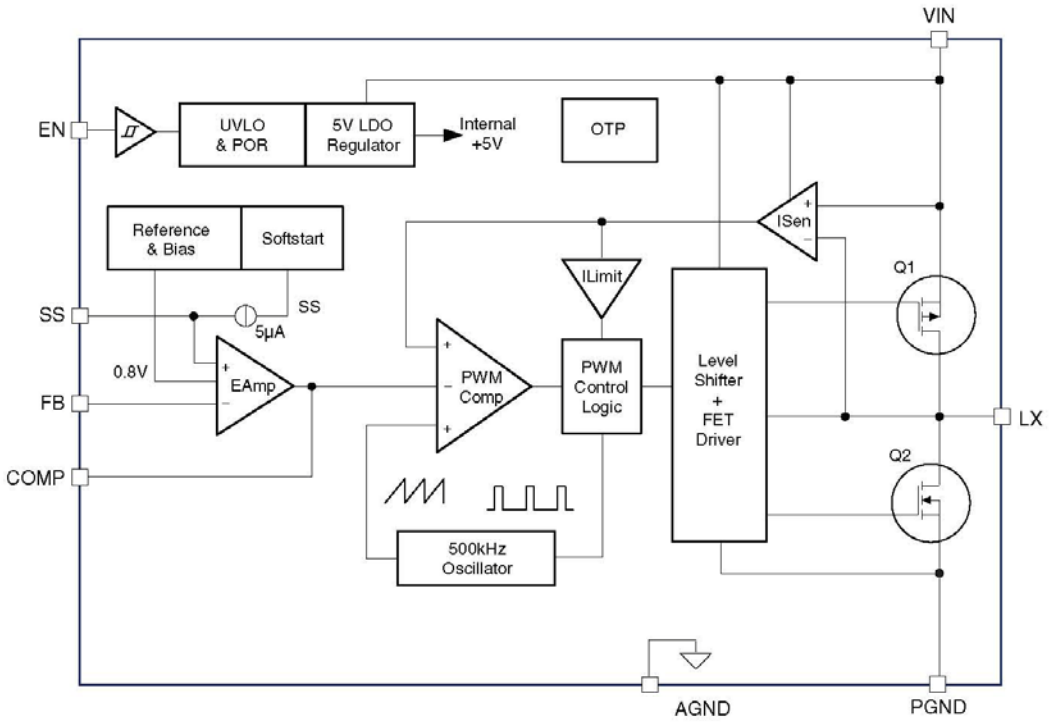


Exposed Pad SO-8
(Top View)

Pin Description

Pin Number	Pin Name	Pin Function
1	PGND	Power ground. PGND needs to be electrically connected to AGND.
2	VIN	Supply voltage input. When VIN rises above the UVLO threshold and EN is logic high, the device starts up.
3	AGND	Analog ground. AGND is the reference point for controller section. AGND needs to be electrically connected to PGND.
4	FB	Feedback input. The FB pin is used to set the output voltage via a resistive voltage divider between the output and AGND.
5	COMP	External loop compensation pin. Connect a RC network between COMP and AGND to compensate the control loop.
6	EN	Enable pin. Pull EN to logic high to enable the device. Pull EN to logic low to disable the device. If on/off control in not needed, connect EN to VIN and do not leave it open.
7	SS	Soft-start pin. 5 µA current charging current.
8	NC	No Connect Pin. Pin 8 is not internally connected. Connect this pin externally to LX and use it for better thermal performance.
Exposed pad	LX	Switching node. LX is the drain of the internal PFET. LX is used as the thermal pad of the power stage.

Block Diagram



Absolute Maximum Ratings

Exceeding the Absolute Maximum Ratings may damage the device.

Parameter	Rating
Supply Voltage (V_{IN})	20 V
LX to AGND	-0.7 V to V_{IN}+0.3 V
LX to AGND (20 ns)	-5 V to 22 V
EN to AGND	-0.3 V to V_{IN}+0.3 V
FB, SS, COMP to AGND	-0.3 V to 6.0 V
PGND to AGND	-0.3 V to +0.3 V
Junction Temperature (T_J)	+150 °C
Storage Temperature (T_S)	-65 °C to +150 °C
ESD Rating[1]	2.0 kV

Note:
1. Devices are inherently ESD sensitive, handling precautions are required. Human body model rating: 1.5 kΩ in series with 100 pF.

Recommended Operating Conditions

The device is not guaranteed to operate beyond the Maximum Recommended Operating Conditions.

Parameter	Rating
Supply Voltage (V_{IN})	4.5 V to 18 V
Output Voltage Range	0.8 V to 0.85 • V_{IN}
Ambient Temperature (T_A)	-40 °C to +85 °C
Package Thermal Resistance Exposed Pad SO-8 (Θ_{JA})[2]	50 °C/W

Note:
2. The value of Θ_{JA} is measured with the device mounted on a 1-in^2 FR-4 board with 2 oz. Copper, in a still air environment with T_A = 25 °C. The value in any given application depends on the user's specific board design.

2. ME9435A

2009.5.26

Matsuki Electric — ME9435A

30V P-Channel Enhancement Mode MOSFET

GENERAL DESCRIPTION

The ME9435A is the P-Channel logic enhancement mode power field effect transistors, using high cell density, DMOS trench technology. This high density process is especially tailored to minimize on-state resistance.

These devices are particularly suited for low voltage application such as cellular phone, notebook computer power management and other battery powered circuits, and lower power loss that are needed in a very small outline surface mount package.

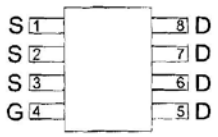
FEATURES

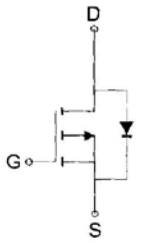
1. $R_{DS(ON)} \leq 40m\Omega @ V_{GS}=-10V$
2. $R_{DS(ON)} \leq 60m\Omega @ V_{GS}=-4.5V$

PIN CONFIGURATION

(SOP-8)

Top View





P-Channel MOSFET

Absolute Maximum Ratings (T_A=25℃ Unless Otherwise Noted)

Parameter		Symbol	10 secs	Steady State	Unit
Drain-Source Voltage		V_{DSS}	-30		V
Gate-Source Voltage		V_{GSS}	±20		V
Continuous Drain Current	Tc=25℃	I_D	-6.3		A
Pulsed Drain Current [1]		I_{DM}	-30		A
Maximum Power Dissipation	Tc=25℃	P_D	2.5		W
Operating Junction Temperature		T_J	-55 to 150		℃
Junction-to-Case Thermal Resistance		$R_{\theta JC}$	28		℃/W
Junction-to-Ambient Thermal Resistance*		$R_{\theta JA}$	t ≤ 10 sec	34	℃/W
			Steady State	62	

*The device mounted on 1in2 FR4 board with 2 oz copper

3. ME4953

Matsuki Electric

ME4953

Dual P-Channel 30V (D-S) MOSFET

GENERAL DESCRIPTION

The ME4953 is the Dual P-Channel logic enhancement mode power field effect transistors are produced using high cell density, DMOS trench technology. This high density process is especially tailored to minimize on-state resistance. These devices are particularly suited for low voltage application such as cellular phone and notebook computer power management and low in-line power loss are needed in a very small outline surface mount package.

FEATURES

- $R_{DS(ON)} \leq 50m\Omega @ V_{GS}=-10V$
- $R_{DS(ON)} \leq 80m\Omega @ V_{GS}=-4.5V$
- Super high density cell design for extremely low $R_{DS(ON)}$
- Exceptional on-resistance and maximum DC current capability

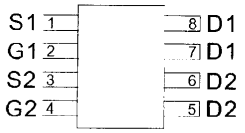
APPLICATIONS

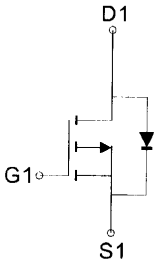
- Power Management in Note book
- Portable Equipment
- Battery Powered System
- DC/DC Converter
- Load Switch
- DSC
- LCD Display inverter

PIN CONFIGURATION

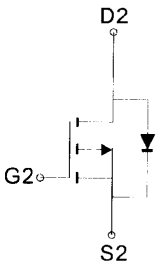
(SOP-8)

Top View





P-Channel MOSFET



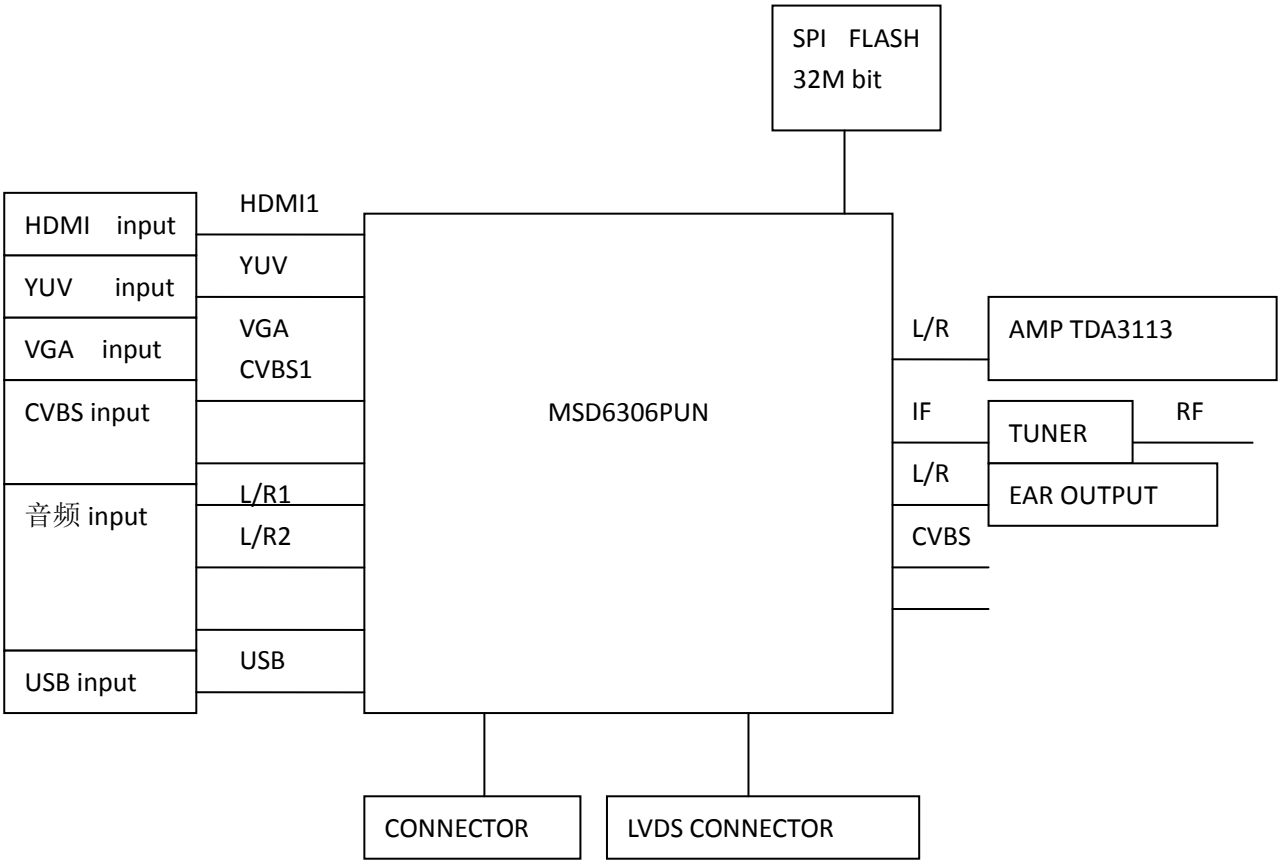
P-Channel MOSFET

Absolute Maximum Ratings (T_A=25℃ Unless Otherwise Noted)

Parameter		Symbol	Limit	Unit
Drain-Source Voltage		V_{DSS}	-30	V
Gate-Source Voltage		V_{GSS}	±20	V
Continuous Drain Current(Tj=150℃)	Tc=25℃	I_D	-6	A
	Tc=70℃		-5	
Pulsed Drain Current		I_{DM}	-30	A
Continuous Source Current (Diode Conduction)		I_S	-1.7	A
Maximum Power Dissipation	Tc=25℃	P_D	2.5	W
	Tc=70℃		1.3	
Operating Junction Temperature		T_J	-55 to 150	℃
Storage Temperature Range		T_{stg}	-55 to 150	℃
Thermal Resistance-Junction to Ambient*		$R_{\theta JA}$	t≤10 sec: 47	℃/W
			Steady State: 75	
Thermal Resistance-Junction to Case		$R_{\theta JC}$	45	℃/W

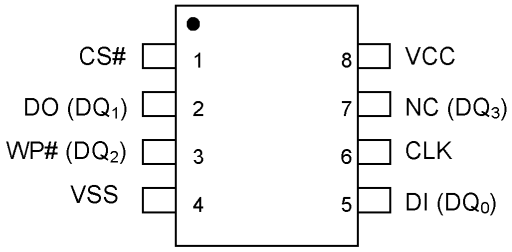
*The device mounted on 1in^2 FR4 board with 2oz copper

4. MSD6306PUN

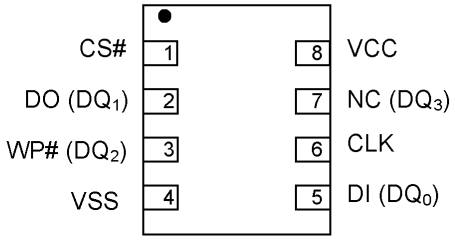


5. EN25Q64-104HIP

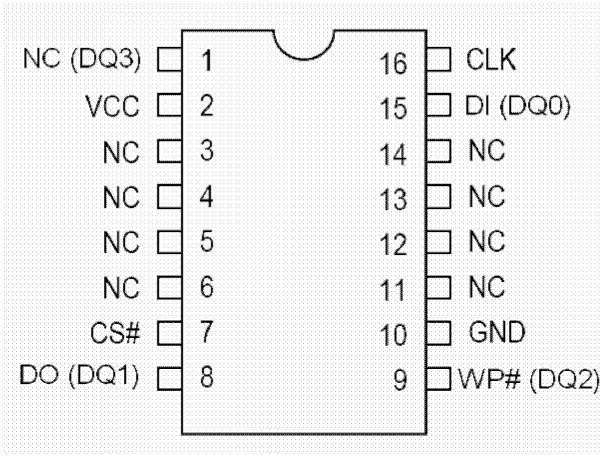
Figure.1 CONNECTION DIAGRAMS



8 - LEAD SOP / PDIP

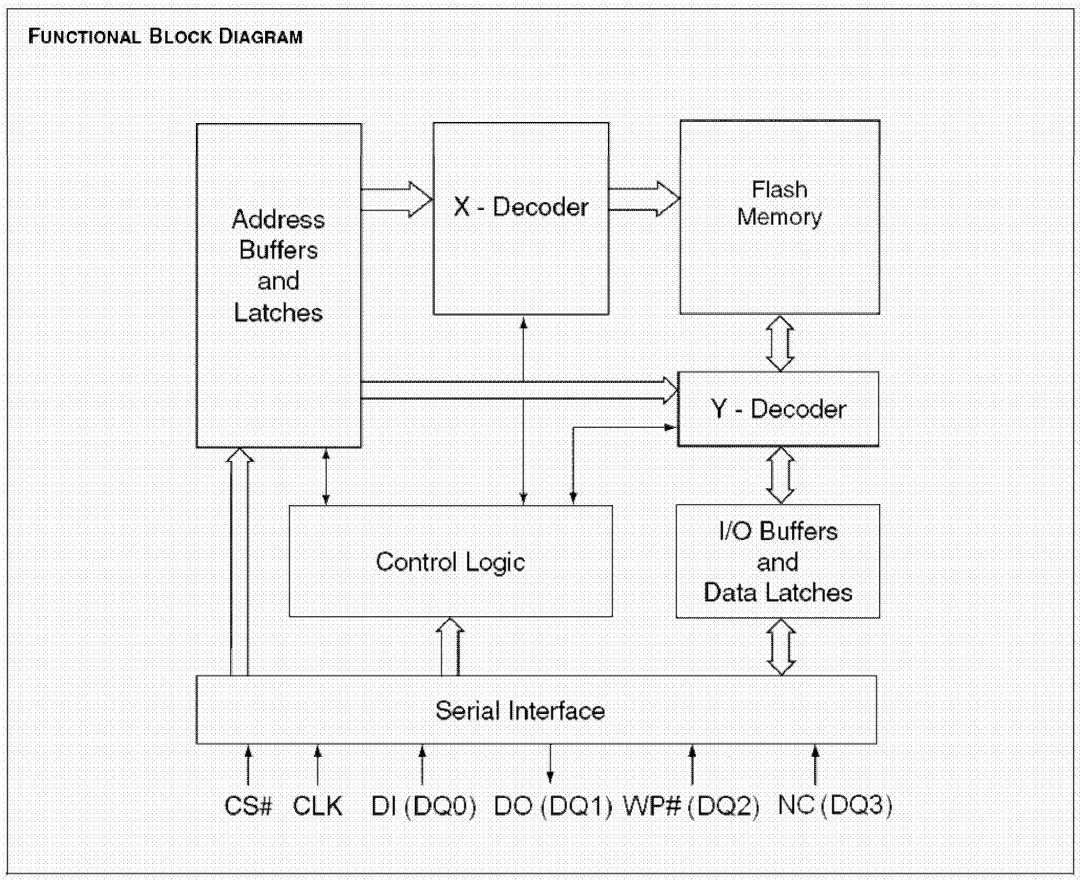


8 - LEAD VDFN



16 - LEAD SOP

Figure 2. BLOCK DIAGRAM



Note:
1. DQ_0 and DQ_1 are used for Dual and Quad instructions.
2. DQ_0 ~ DQ_3 are used for Quad instructions.

Table 1. Pin Names

Symbol	Pin Name
CLK	Serial Clock Input
DI (DQ_0)	Serial Data Input (Data Input Output 0) *1
DO (DQ_1)	Serial Data Output (Data Input Output 1) *1
CS#	Chip Enable
WP# (DQ_2)	Write Protect (Data Input Output 2) *2
NC(DQ_3)	Not Connect (Data Input Output 3) *2
Vcc	Supply Voltage (2.7-3.6V)
Vss	Ground
NC	No Connect

Note:
1. DQ_0 and DQ_1 are used for Dual and Quad instructions.
2. DQ_0 ~ DQ_3 are used for Quad instructions.

SIGNAL DESCRIPTION

Serial Data Input, Output and IOs (DI, DO and DQ_0, DQ_1, DQ_2, DQ_3)

The EN25Q64 support standard SPI, Dual SPI and Quad SPI operation. Standard SPI instructions use the unidirectional DI (input) pin to serially write instructions, addresses or data to the device on the rising edge of the Serial Clock (CLK) input pin. Standard SPI also uses the unidirectional DO (output) to read data or status from the device on the falling edge CLK.

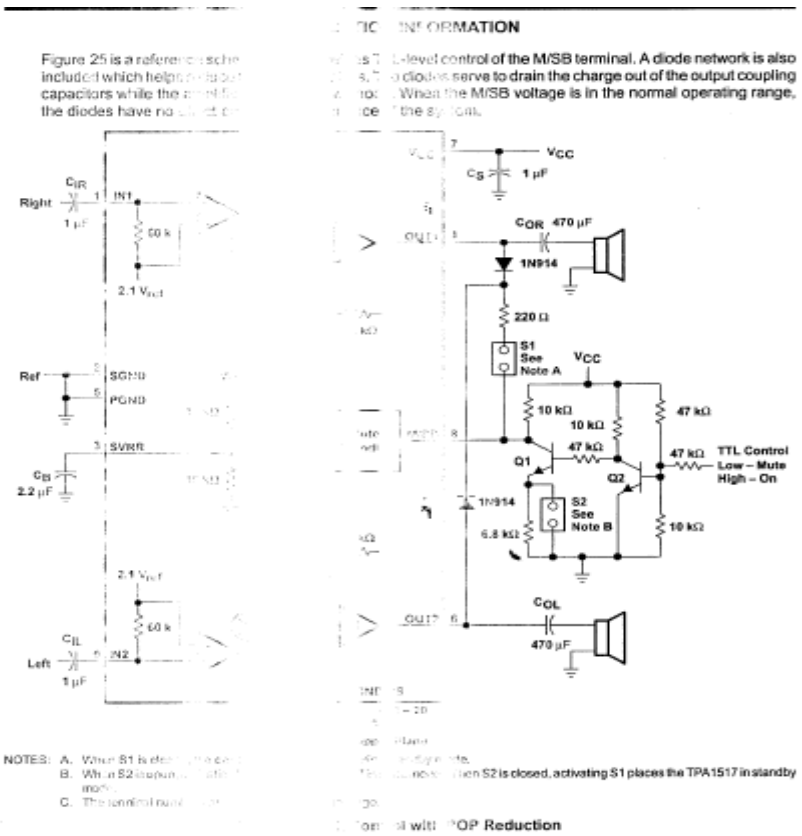
Dual and Quad SPI instruction use the bidirectional IO pins to serially write instruction, addresses or data to the device on the rising edge of CLK and read data or status from the device on the falling edge of CLK.

Serial Clock (CLK)
The SPI Serial Clock Input (CLK) pin provides the timing for serial input and output operations. ("See SPI Mode")

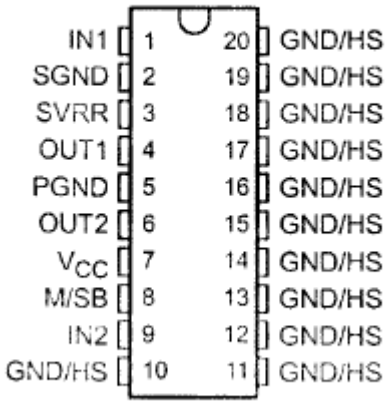
Chip Select (CS#)
The SPI Chip Select (CS#) pin enables and disables device operation. When CS# is high the device is deselected and the Serial Data Output (DO, or DQ_0, DQ_1, DQ_2 and DQ_3) pins are at high impedance. When deselected, the devices power consumption will be at standby levels unless an internal erase, program or status register cycle is in progress. When CS# is brought low the device will be selected, power consumption will increase to active levels and instructions can be written to and data read from the device. After power-up, CS# must transition from high to low before a new instruction will be accepted.

Write Protect (WP#)
The Write Protect (WP#) pin can be used to prevent the Status Register from being written. Used in conjunction with the Status Register's Block Protect (BP0, BP1, BP2 and BP3) bits and Status Register Protect (SRP) bits, a portion or the entire memory array can be hardware protected. The WP# function is only available for standard SPI and Dual SPI operation, when during Quad SPI, this pin is the Serial Data IO (DQ_2) for Quad I/O operation.

6. TAS1517



NE PACKAGE
(TOP VIEW)

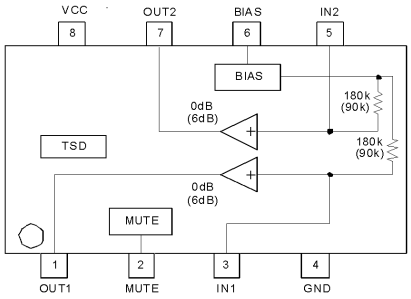


Terminal Functions

TERMINAL NAME	TERMINAL DWP NO.	TERMINAL NE NO.	I/O	DESCRIPTION
IN1	2	1	I	IN1 is the audio input for channel 1.
SGND	4	2	I	SGND is the input signal ground reference.
SVRR	5	3		SVRR is the midrail bypass mode enable.
OUT1	7, 8	4	O	OUT1 is the audio output for channel 1.
PGND	9, 12	5		PGND is the power ground reference.
OUT2	13, 14	6	O	OUT2 is the audio output for channel 2.
V_{CC}	16	7	I	V_{CC} is the supply voltage input.
M/SB	17	8	I	M/SB is the mute/standby mode enable. When held at less than 2 V, this signal enables the TPA1517 for standby operation. When held between 3.4 V and 8.8 V, this signal enables the TPA1517 for mute operation. When held above 9.2 V, the TPA1517 operates normally.
IN2	19	9	I	IN2 is the audio input for channel 2.
GND/HS	1, 10, 11, 20	10– 20		GND/HS are the ground and heatsink connections. All GND/HS terminals are connected directly to the mount pad for thermal-enhanced operation.

7 BH3544F-E2

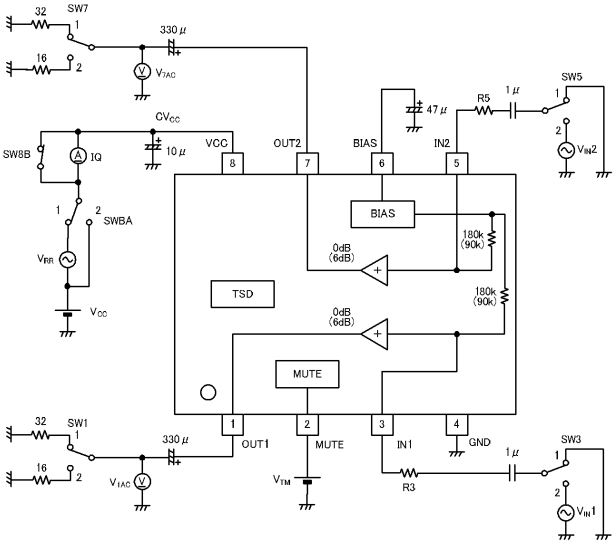
●**Block diagram**



( ) are BH3544F, BH3547F, BH3548F values.

Fig. 13

●**Measurement circuit**



( ) are BH3544F, BH3547F, BH3548F values.

Fig. 14

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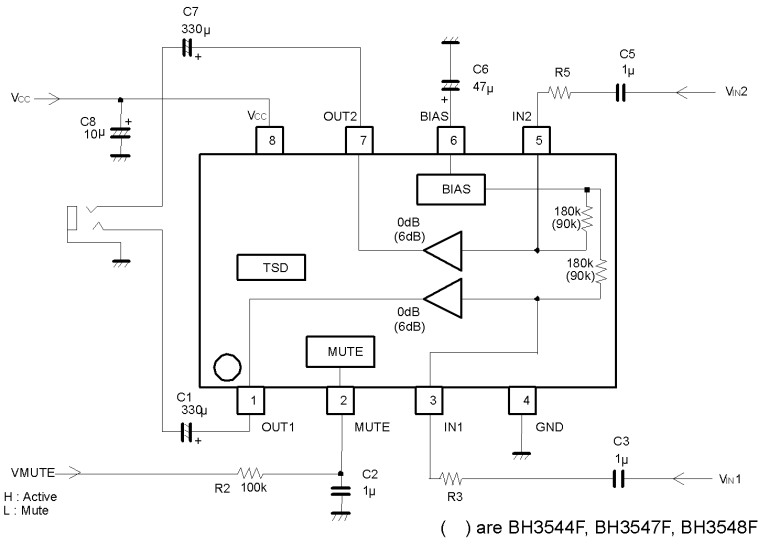
●**Application circuit**



( ) are BH3544F, BH3547F, BH3548F values.

Fig. 15

●**Description of external components.**

1) Input coupling capacitors (C3, C5)

These are determined according to the lower cutoff frequency fc. Moreover, since lowering the capacitance can cause the occurrence of pop noise, when changing this, determine it after adequate checking.

Since the input impedance of the BH3541F is 180kΩ and that of the BH3544F,BH3547F,BH3548F is 90kΩ, these are found by the expressions below, although drift, temperature characteristics, and other considerations are necessary. (Layered ceramic capacitors are recommended.)

$C3(C5)=1/(2\pi\times180k\Omega\times fc)$ [BH3541F]

$C3(C5)=1/(2\pi\times 90k\Omega\times fc)$ [BH3544 F ,BH3547F,BH3548F]

2) Bias capacitor (C6)

When VCC=5V, 47µF is recommended. Since lowering the capacitance too much can cause worsening of electrical characteristics or the occurrence of pop noise, when changing this, determine it after checking this adequately.

3) Mute pin pop noise countermeasures (R2, C2)

Since the BH3541F,BH3544F,BH3548F has an impedance of 190kΩ against GND and the BH3547F has 200kΩ, it may be impossible to cancel mute mode if R2 is made too large.

4) Output coupling capacitors (C1, C7)

These are determined by the lower cutoff frequency. If R_L is the output load resistance (assuming a resistance R_X is put in for output protection or current restriction), these are found by the expression below.

$C1(C7)=1/(2\pi\times(R_L+R_x)\times fc)$

5) Input gain adjustment resistances (R3, R5) (BH3544F,BH3547F)

Externally attached resistances (R3, R5) make input gain adjustment possible. The gain found by the expression below can be set.

$G_{VC}=6+20\log(90k\Omega/(90k\Omega+R3[R5]))$ [dB]

When input gain is not accommodated, these resistors have no use.

●**Notes for use**

1) Numbers and data in entries are representative design values and are not guaranteed values of the items.
2) Although we are confident in recommending the sample application circuits, carefully check their characteristics further when using them. When modifying externally attached component constants before use, determine them so that they have sufficient margins by taking into account variations in externally attached components and the Rohm LSI, not only for static characteristics but also including transient characteristics.
3) Absolute maximum ratings

If applied voltage, operating temperature range, or other absolute maximum ratings are exceeded, the LSI may be damaged. Do not apply voltages or temperatures that exceed the absolute maximum ratings. If you think of a case in which absolute maximum ratings are exceeded, enforce fuses or other physical safety measures and investigate how not to apply the conditions under which absolute maximum ratings are exceeded to the LSI.

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4) GND potential
Make the GND pin voltage such that it is the lowest voltage even when operating below it. Actually confirm that the voltage of each pin does not become a lower voltage than the GND pin, including transient phenomena.
5) Thermal design
Perform thermal design in which there are adequate margins by taking into account the allowable power dissipation in actual states of use.
6) Shorts between pins and misinstallation
When mounting the LSI on a board, pay adequate attention to orientation and placement discrepancies of the LSI. If it is misinstalled and the power is turned on, the LSI may be damaged. It also may be damaged if it is shorted by a foreign substance coming between pins of the LSI or between a pin and a power supply or a pin and a GND.
7) Operation in strong magnetic fields
Adequately evaluate use in a strong magnetic field, since there is a possibility of malfunction.
8) Pop noise countermeasures
In order to prevent the pop noise that occurs when the power supply turns ON or OFF, make the rise and fall with reference to the timing diagram shown below.

1)BH3541F/ BH3544F/ BH3548F

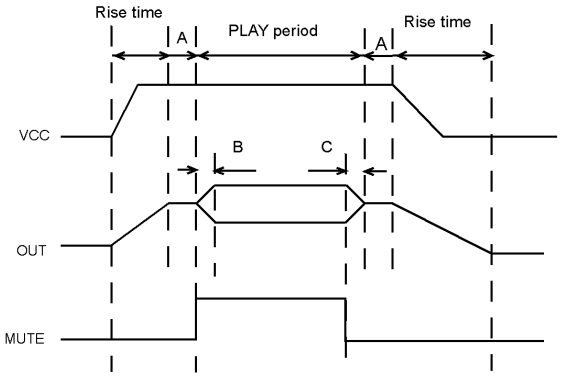

Fig. 16

(A):Mute period (Use as pop noise countermeasure when power supply turns ON/OFF by makingVMUTE=Lo.)
(B):Mute cancellation period (This has a time constant because it is used by the externally attached C2 and R2 as a pop noise countermeasure on mute cancellation, so be careful of the timing.)
(C):Mute start time (As on cancellation, this has a time constant.)

2)BH3547F

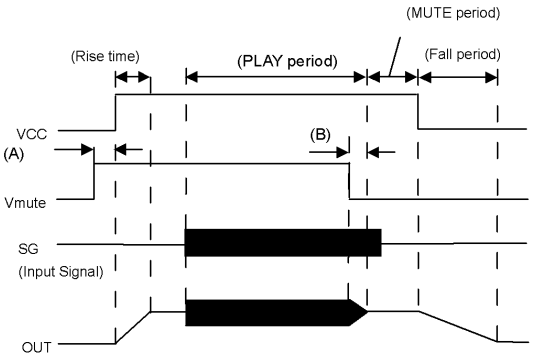

Fig. 17

(A):Before VCC rise (or at the same time as VCC) make mute cancelled (VMUTE=Hi).
(B):Soft mute period (This time can be set by externally attached R2 and C2)

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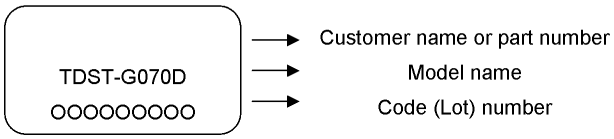
1. FEATURES

- Compliance with DVB-T2, DVB-T, DVB-C & PAL
- Compatible with Vertical / Horizontal Jack
- Horizontal Mounting
- RoHS Compliance

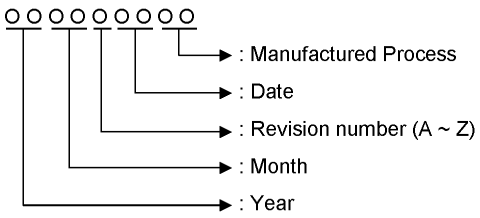
2. ORDERING INFORMATION

TYPE	DESCRIPTION
TDST-G070D	DVB-T/C Half NIM. Horizontal mounting with horizontal Jack (1 Input Only)

3. LABEL MARKING



*** Code (Lot) number ***



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4. GENERAL SPECIFICATION

4-1 Supporting System

: DVB-T2, DVB-T, DVB-C & PAL(B/G, D/K, I)

4-2. Receiving channel

: 45MHz ~ 866MHz

4-3. Input/ Output conditions

- ANT Input impedance : 75 ohm unbalance

- Digital Low IF output Frequency Range : 3~5MHz

5. OPERATING TEST CONDITIONS

PARAMETER		MIN	TYP	MAX	UNIT
Voltage	+B1	3.15	3.3	3.45	V
Ambient Temperature (T_A)		0	-	60	℃
Relative Humidity (RH) (at 40℃)		-	-	85	%

6. STORAGE CONDITIONS

PARAMETER	MIN	TYP	MAX	UNIT
Ambient Temperature (T_A)	-10	-	+80	℃
Relative Humidity (RH) (at 40℃)	-	-	95	%

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11. PIN DESCRIPTIONS

PIN NO	NAME	DESCRIPTION
1	Ant Power	Ant Power
2	N.C	Not Connected
3	SDA	I^2C Bus serial Data input/output
4	SCL	I^2C Bus serial Clock input
5	+B1(3.3V)	3.3V Power Supply for Tuner IC.
6	N.C	Not Connected
7	N.C	Not Connected
8	N.C	Not Connected
9	IF AGC	IF AGC
10	DIF	Digital IF(P) Output
11	DIF	Digital IF(N) Output

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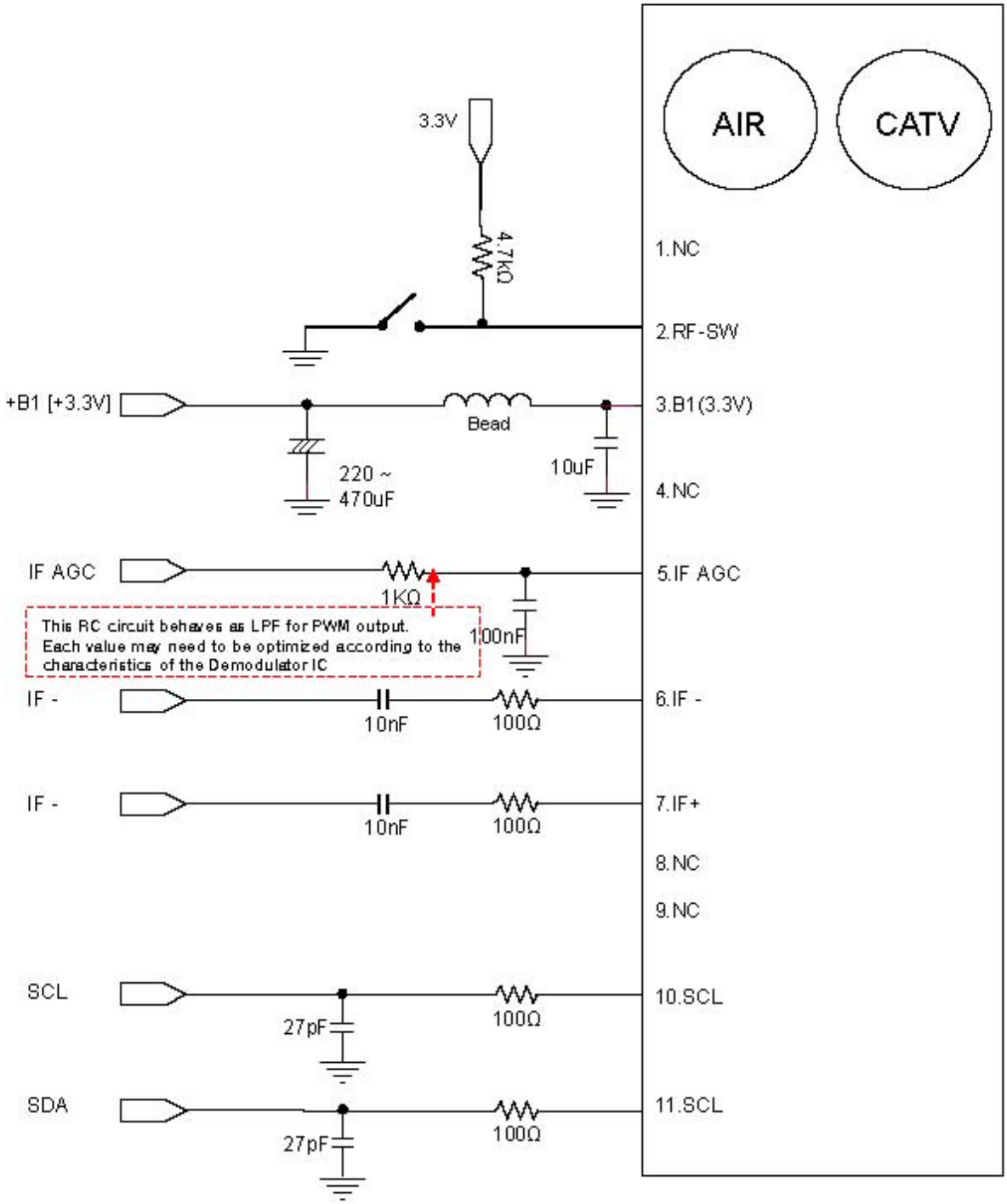
13. Application Circuit



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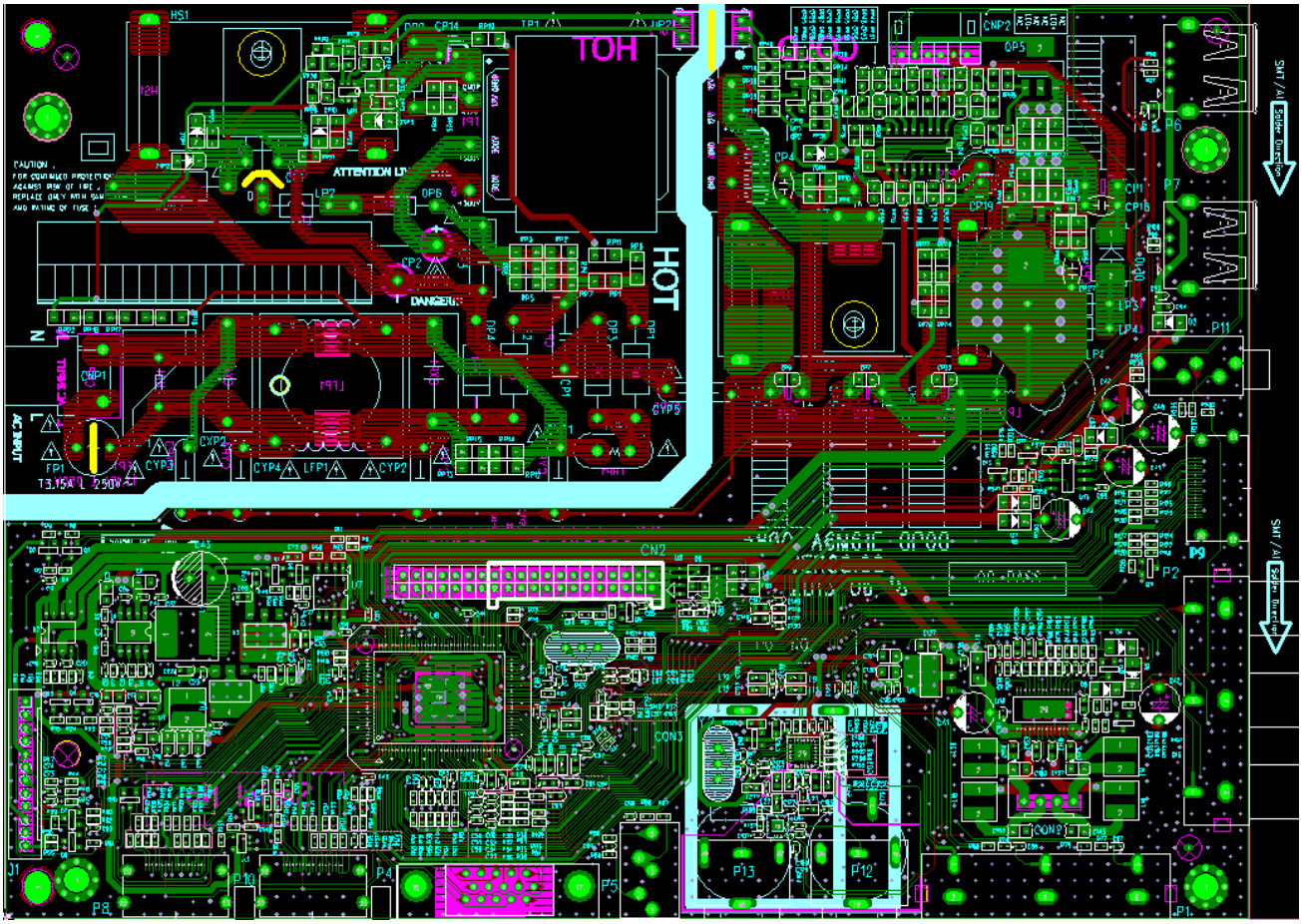
Main PCB Top



6M61E Factory Adjust Menu

(V0.0)

1. Description

Enter factory mode：

Open source menu，and then press digital button “3”, “1”, “9” , “5” in turns to enter the factory menu. Press ↑ and ↓ button to choose the item, press OK button enter the submenu, press MENU to ruturn to

upper menu , press ← and → button to adjust the value,

Leave factory mode:

Press menu button to back to upper menu until leave factory mode。

Software information:

Enter factory mode, you can get the software information from the bottom of the menu.

Panel information:

Enter factory mode, enter "Panel SETTING" item, you can get the panel information from the bottom of this menu.

Aging mode:

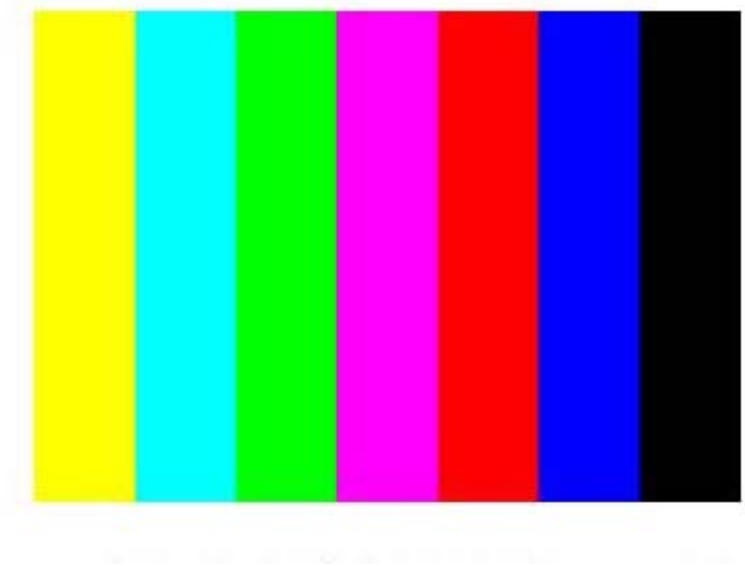
You can press the shortcut key in the factory remote control to open or close the aging mode.

ADC adjusts:

YPBPR source ADC:

Switch to YPBPR source, input 100% color bar pattern, enter factory, select "AUTO ADC" item in the "ADC CALIBRATION" menu, press → button to begin auto adjust. When it is finish, it will show "OK" or "FAILE". If "FAILE" is showed, you need to try again.

NOTE: YPBPR ADC need to do twice by use 576P and 720P signal separate.



VGA source ADC:

Switch to PC source, input tessellated white and black signal, enter factory, select “AUTO ADC” item in the “ADC CALIBRATION” menu, press → button to begin auto adjust. When it is finish, it will show “OK” or “FAILE”. If “FAILE” is showed, you need to try again.

White balance:

Enter factory mode, enter “W/B ADJUST” item, you can adjust white balance in this menu.

Over scanning:

Enter factory mode, enter “Panel SETTING” submenu, enter “OVERSCAN” submenu, you can adjust the over scan in these menu.

OutFactory reset:

Enter factory mode, enter “SYSTEM SETTING” item, select “OUT FACTORY SET” item and press OK button to reset the flash memory. TV set will restart when it is finish.

INIT EEPROM：

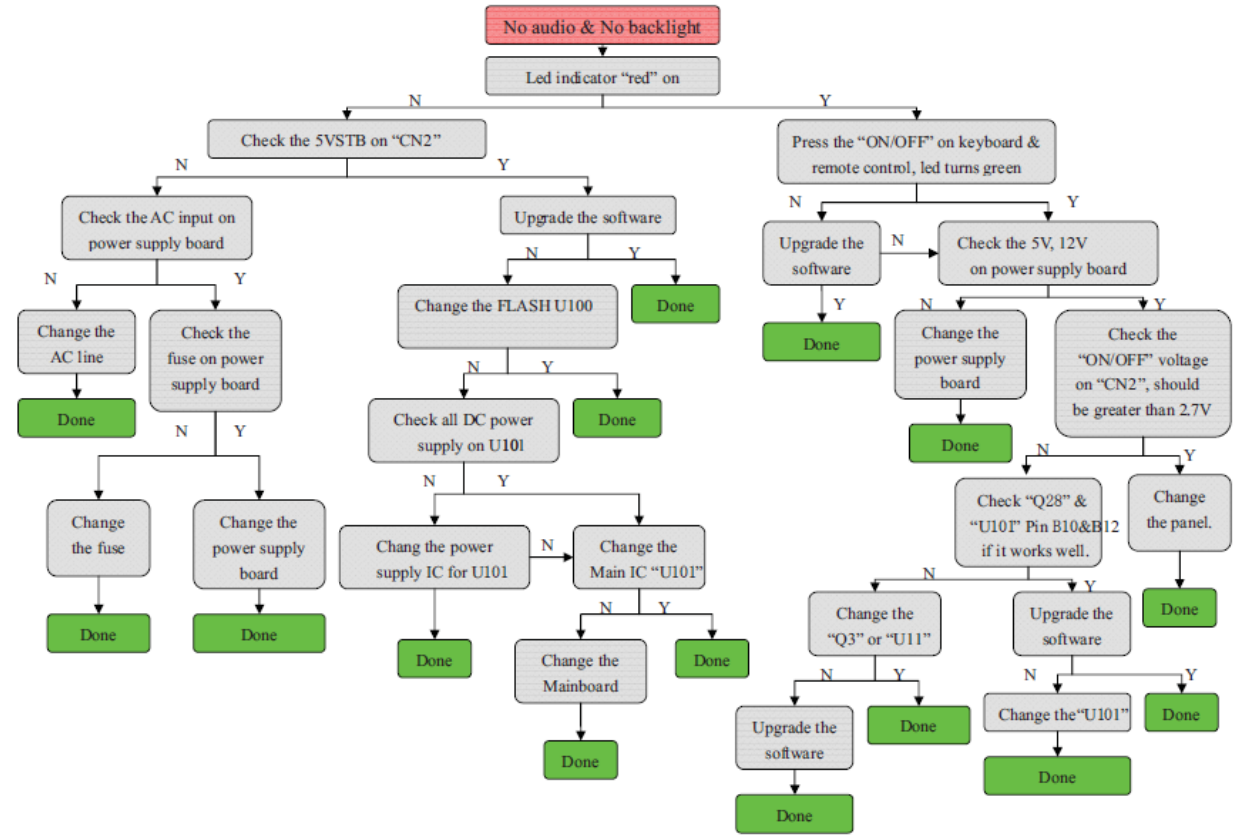
Enter factory mode, enter “SYSTEM SETTING” item, select “FAC RESET DEFAULT” item and press OK button to reset the EEPROM. TV set will restart when it is finish.

Update software (by USB):

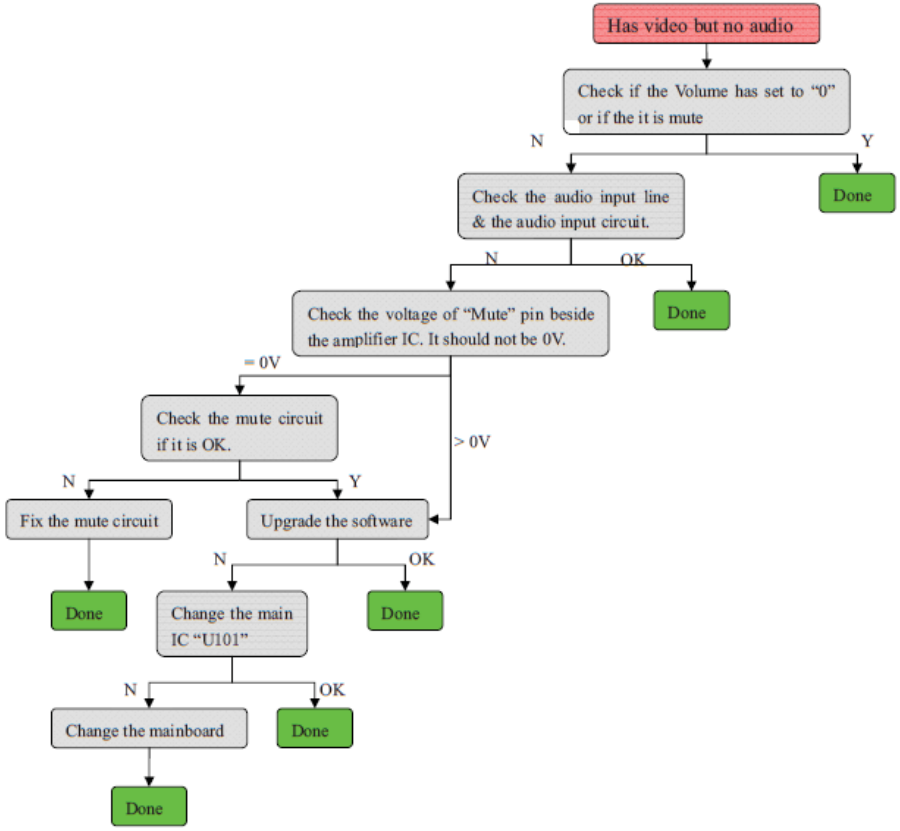
Copy the new software (name by “MERGE.bin”) to the root directory of USB drive. Plug the drive to the USB2 socket (if there are two USB socket, make sure you use the socket 2). Enter factory, select “Software Update (USB)” item and press OK button to begin update. TV set will restart when finish. Note, you need to restart the TV set again by AC power.

We suggest you need to do “**INIT EEPROM**” and “**Factory reset**” after software update

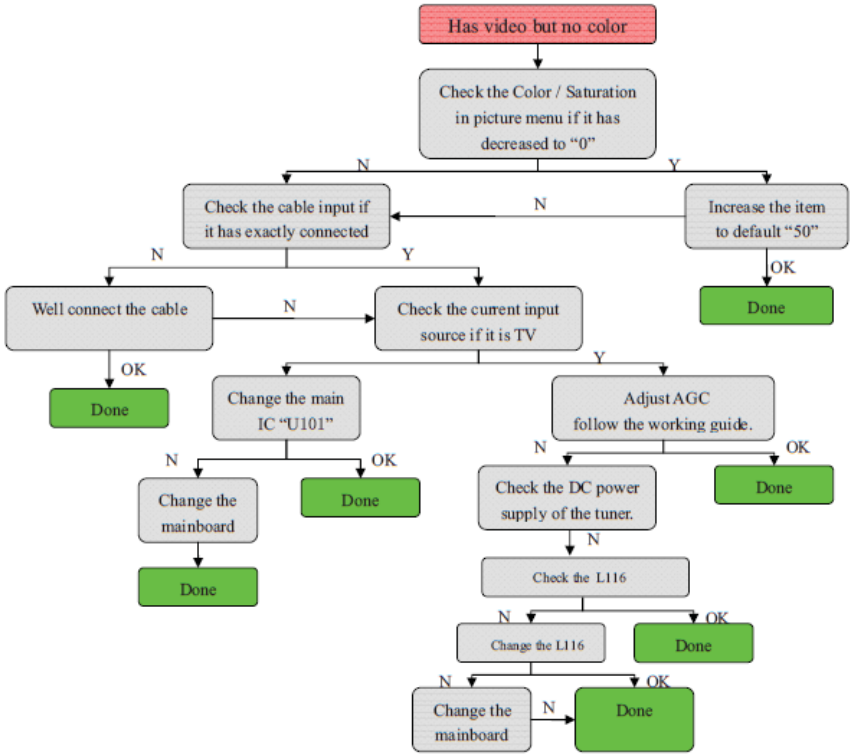
Service Flow Chart



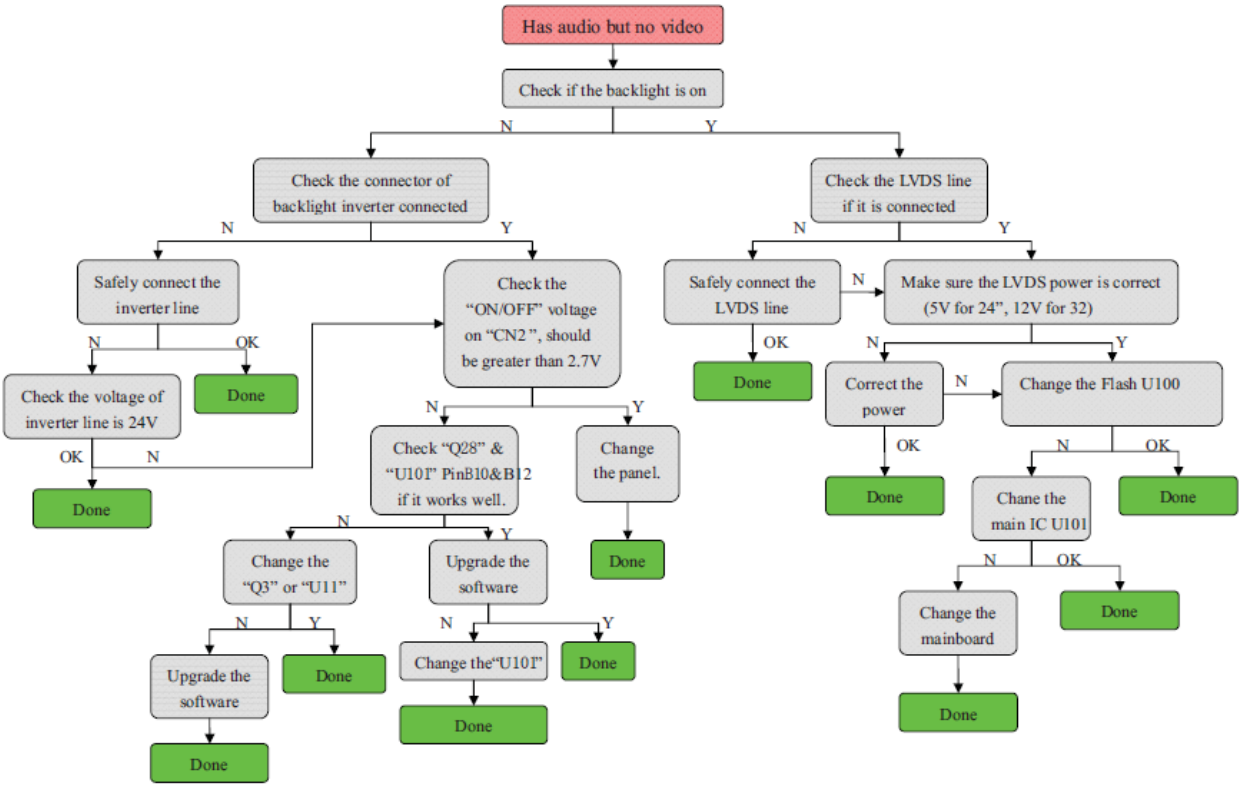
Service Flow Chart



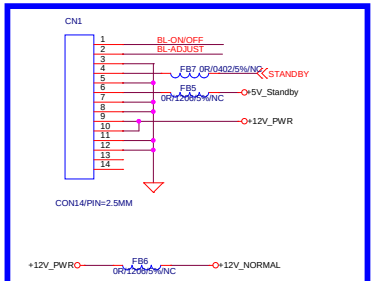
Service Flow Chart



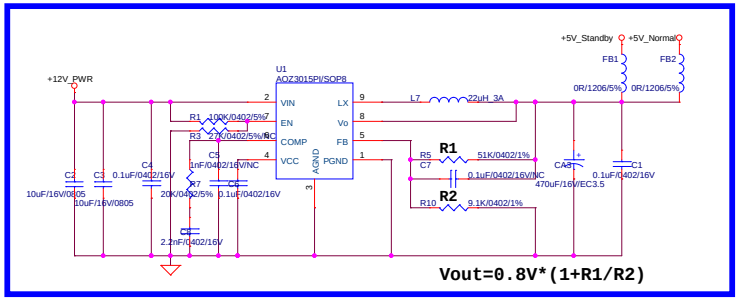
Service Flow Chart



Connetor

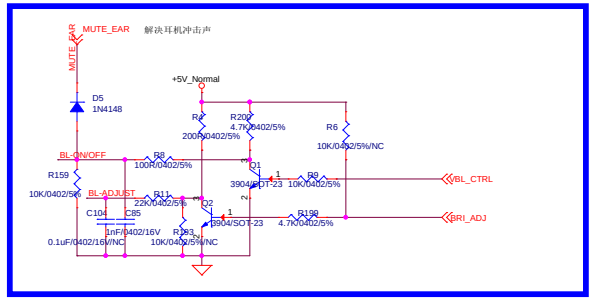


5V Standby Power(option) 3A

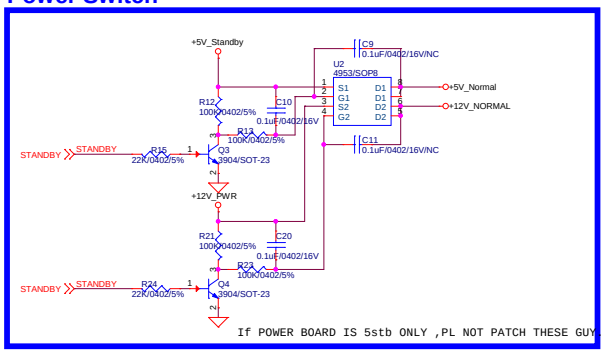


Vout=0.8V*(1+R1/R2)

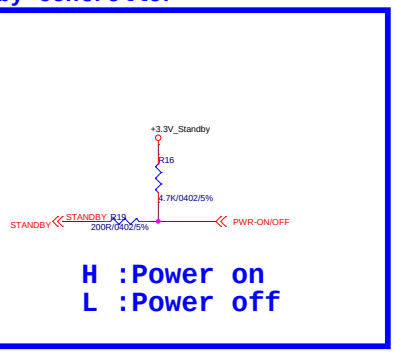
Inverter controller



Power Switch

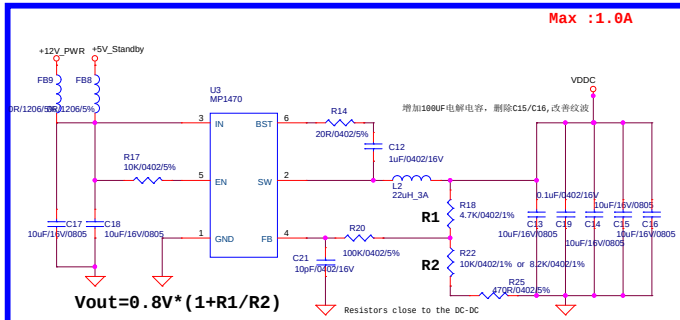


Standby controller



1.15V Core Power

Max :1.0A

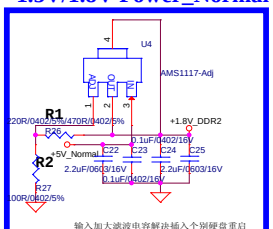


Vout=0.8V*(1+R1/R2)

NOTICE:

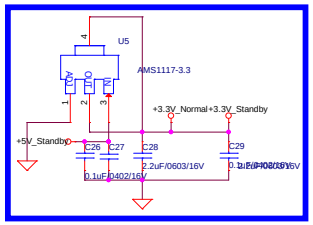
If chip is 3393,The R2 Value is 10K 1%
If chip is 6306,The R2 Value is 8.2K 1%

1.5V/1.8V Power_Normal

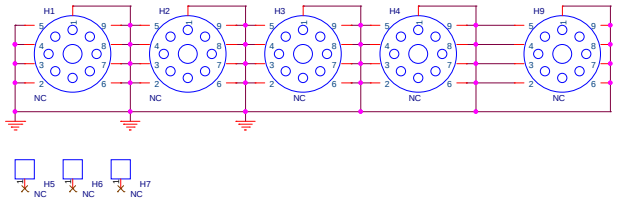


Vout=1.25V*(R1+R2)/R1

3.3V Power



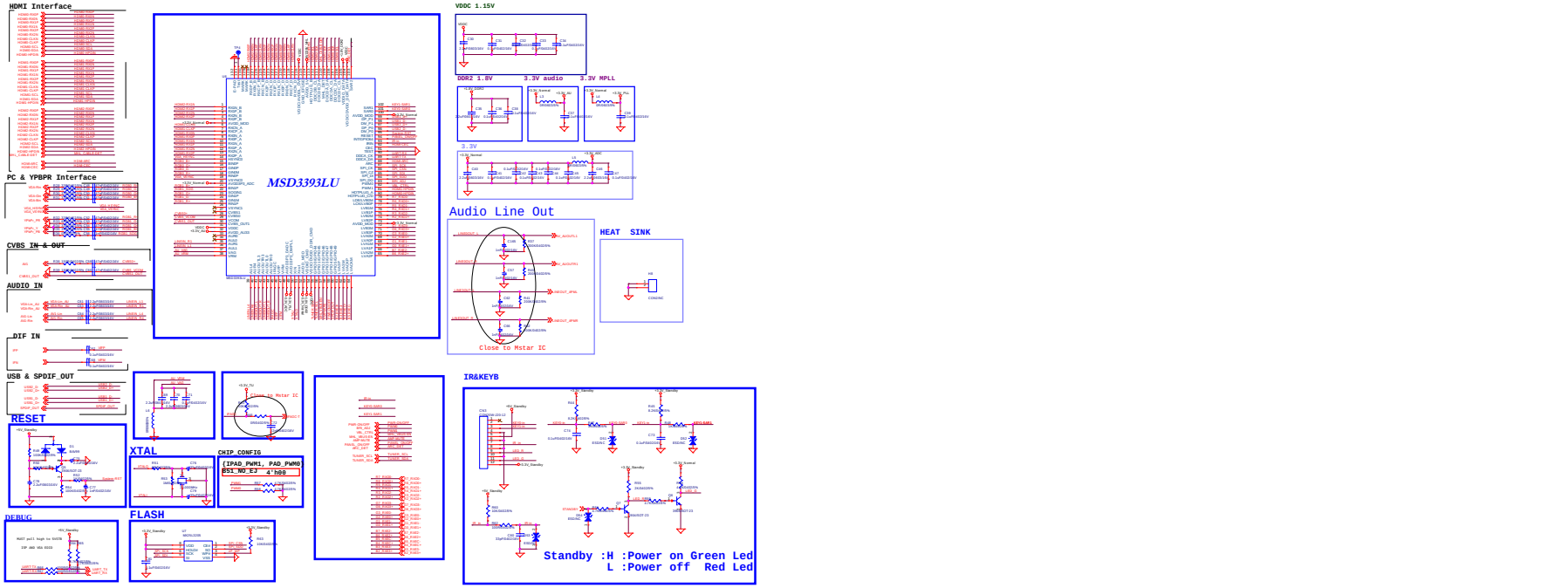
Test Point & MARK



NOTICE:

If chip is 3393,The R1 Value is 220R 5% Vout=1.8V
If chip is 6306,The R1 Value is 470R 5% Vout=1.5V

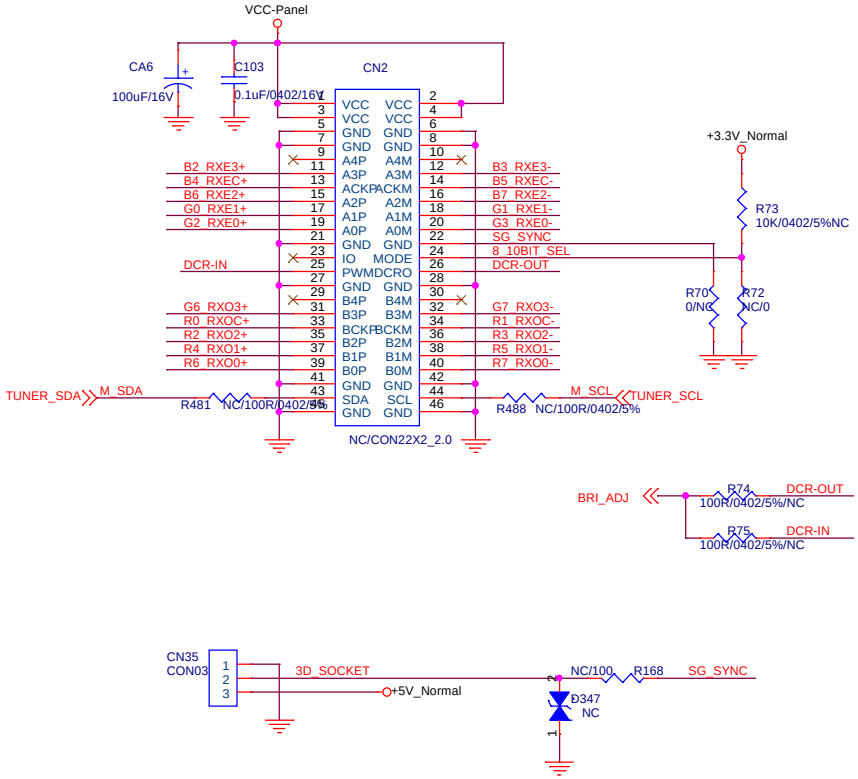
Title	MSD3393		
Size: Custom	Document Number: System power		Rev: 1.0
Date: Sunday, July 14, 2013	Sheet 1 of 9		



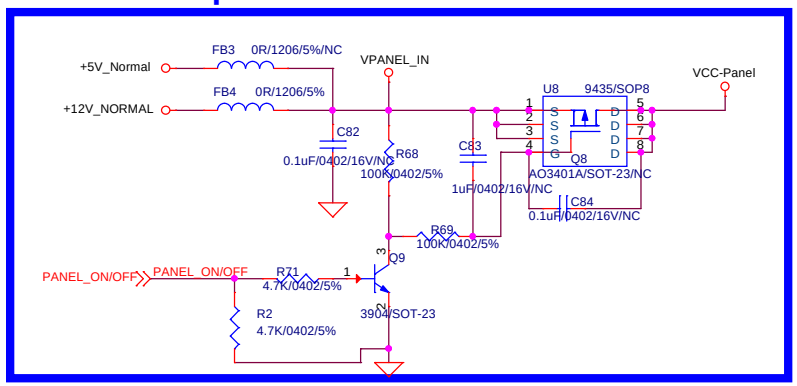
Title	MSD3393	
Size	Document Number: MAIN CHIP	Rev: 1A
Date: Saturday, June 02, 2012	Sheet 1 of 1	

LVDS CONNECTOR (1 DIP + 2 SMT OPTIONAL)

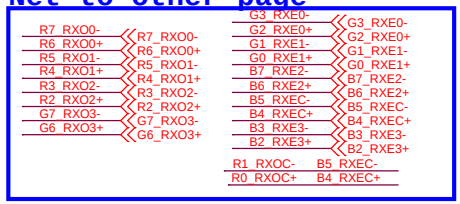
HI CONNECTOR



Power for panel

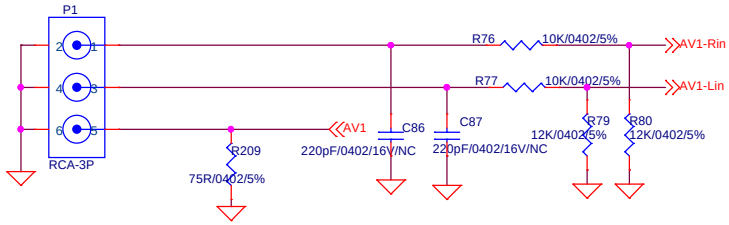


Net to other page

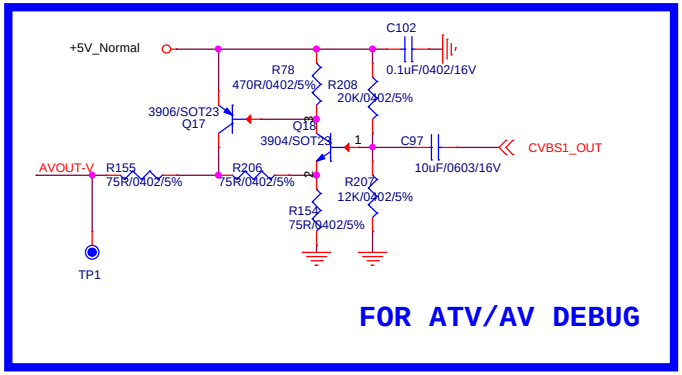


Title	MSD3393	
Size: B	Document Number: LVDS Interface	Rev: 1.0
Date: Saturday, June 08, 2013	Sheet 3 of 9	

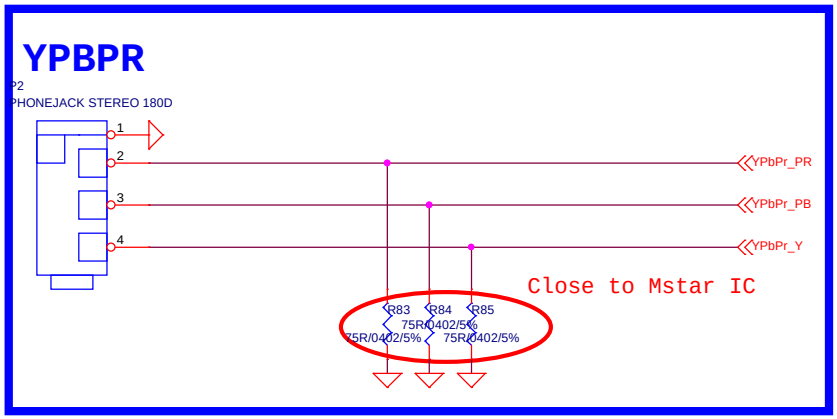
AV IN



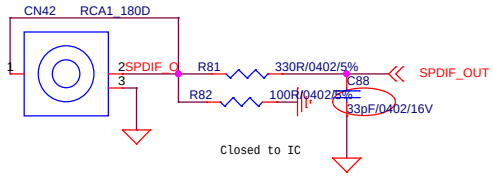
VIDEO OUT



YPBPR

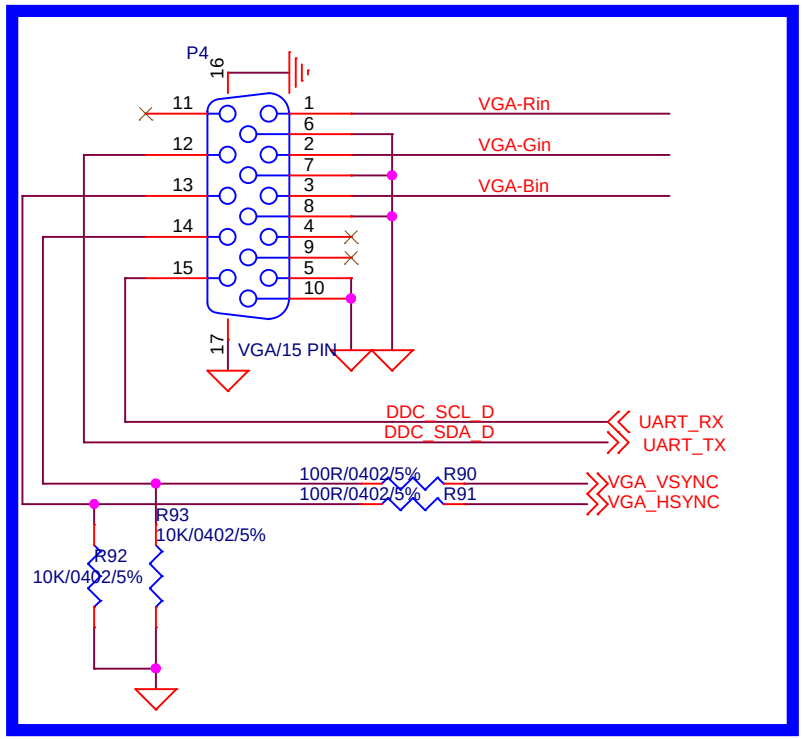


SPDIF OUT

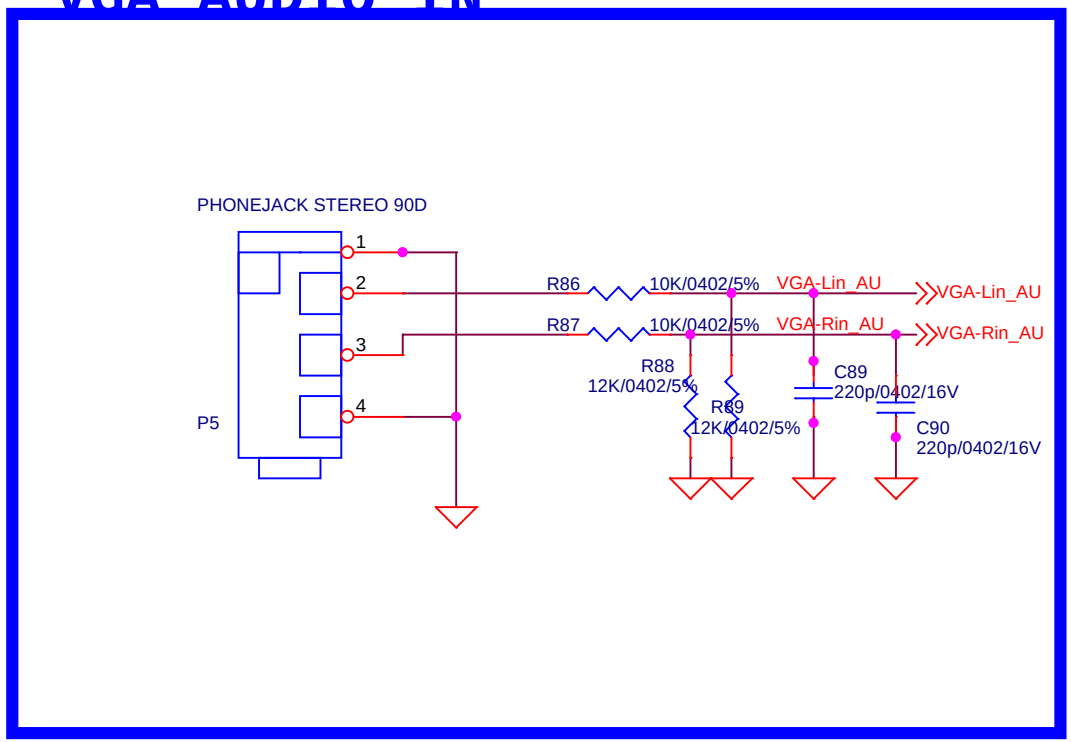


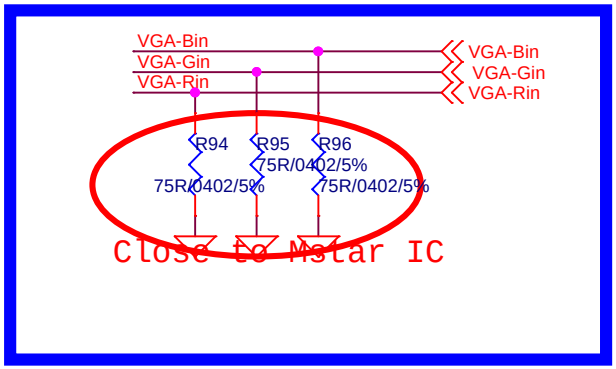
Title	MSD3393	
Size: B	Document Number: Video Interface	Rev: 1.0
Date: Saturday, June 08, 2013	Sheet 4 of 9	

VGA



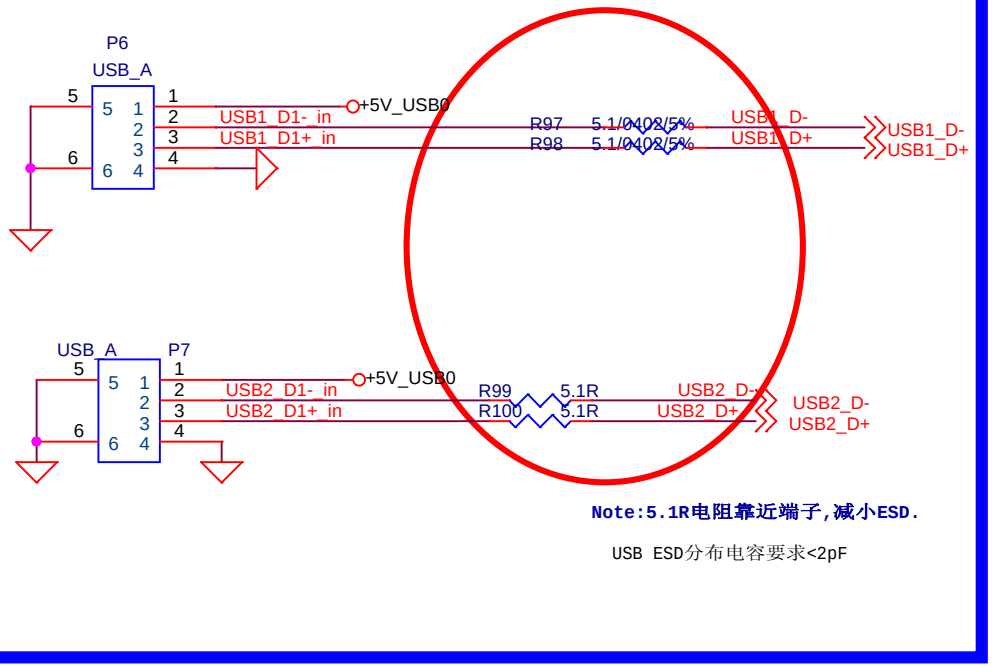
VGA_AUDIO_IN



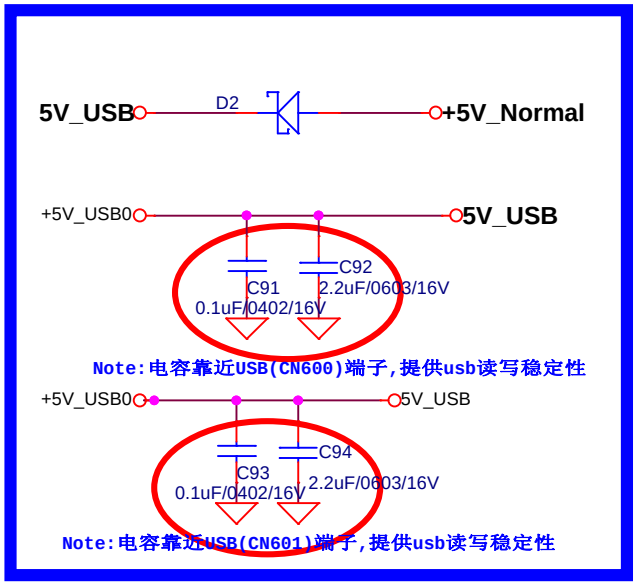


Title	MSD3393	
Size: A	Document Number: VGA Interface	Rev: 1.0
Date: Saturday, June 08, 2013	Sheet 5 of 9	

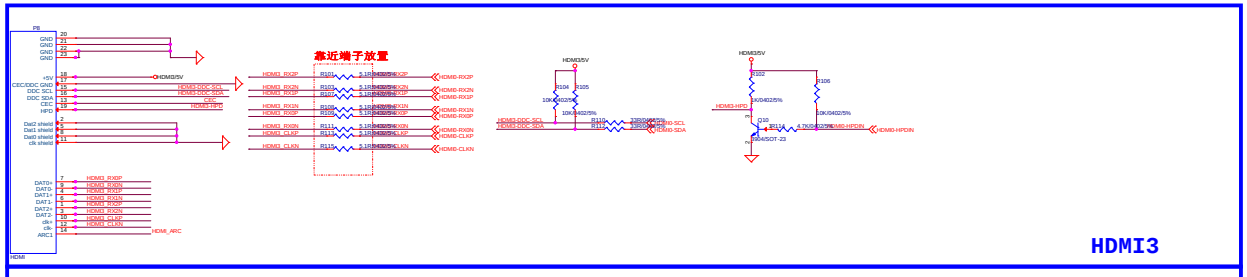
USB INTERFACE



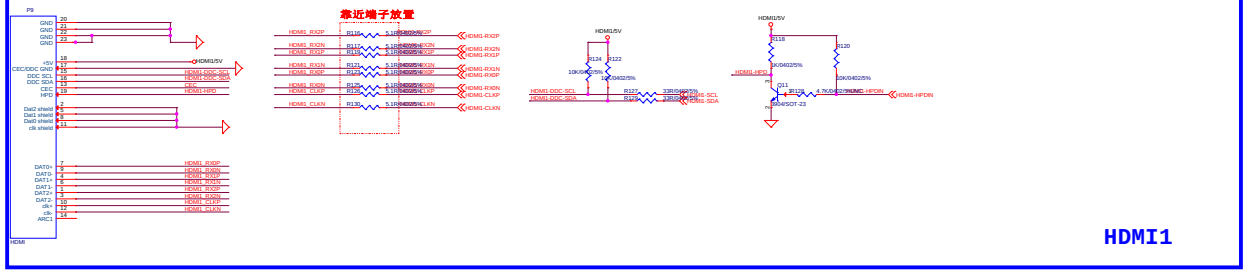
USB POWER



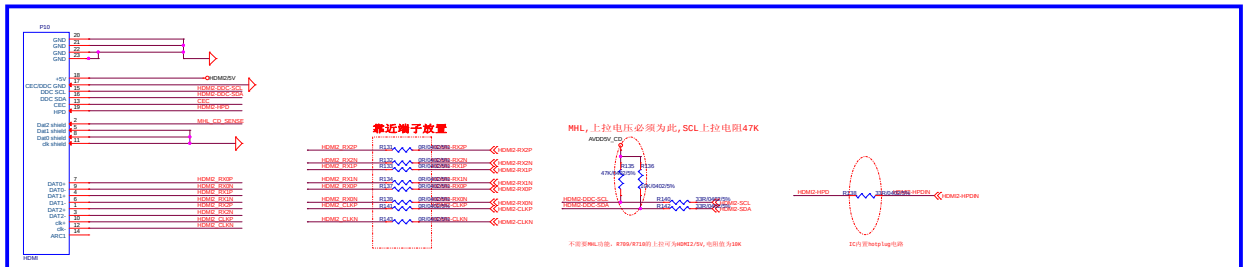
Title	MSD3393	
Size: A	Document Number: USB Interface	Rev: 1.0
Date: Saturday, June 08, 2013	Sheet 6 of 9	



HDMI3

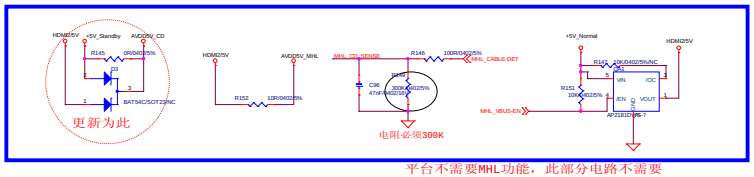


HDMI1



CEC & ARC

MHL

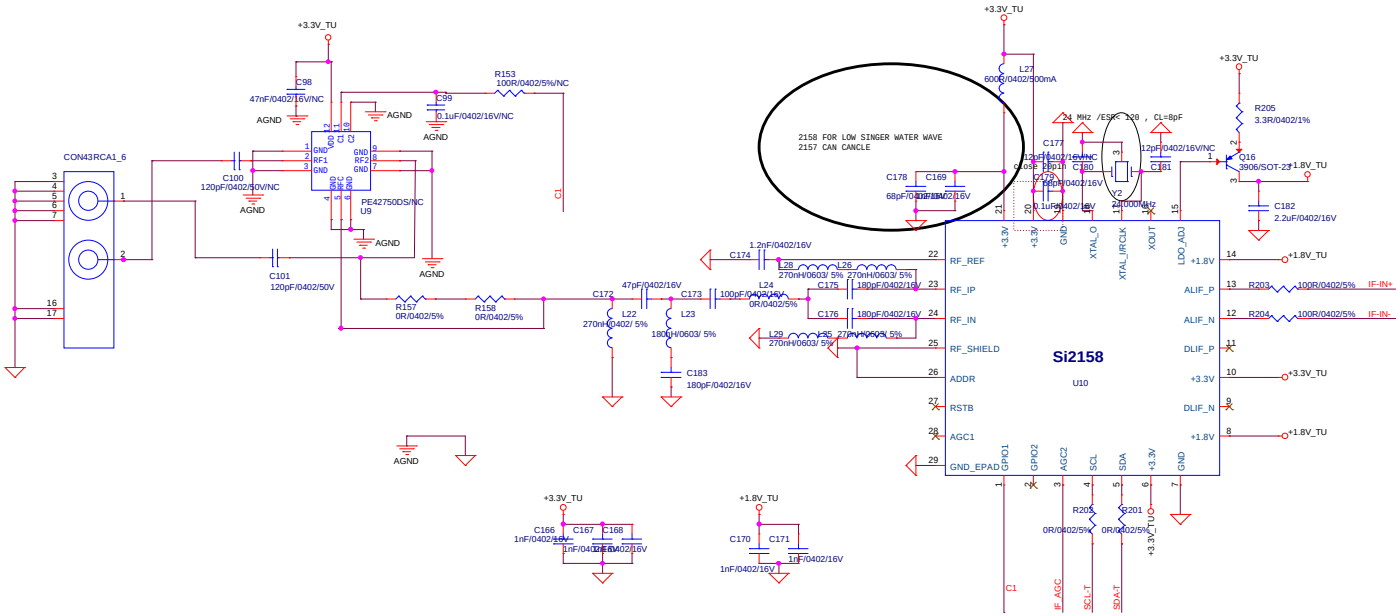


平台不需要MHL功能，此部分电路不需要

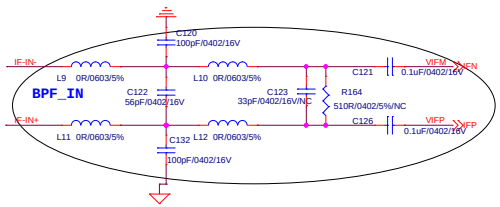
HDMI2 With MHL

Title	MSD3393		
Size	Document Number	HDMI Interface	Rev 1.0
Date: Saturday, June 08, 2013	Sheet 7 of 8		

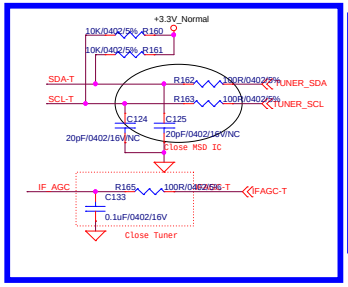
Silicon TUNER



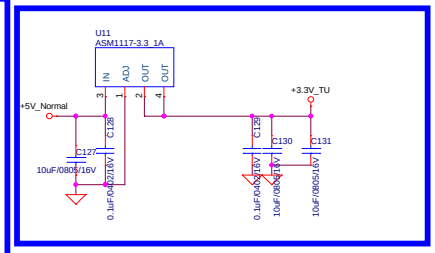
DIF IN&OUT



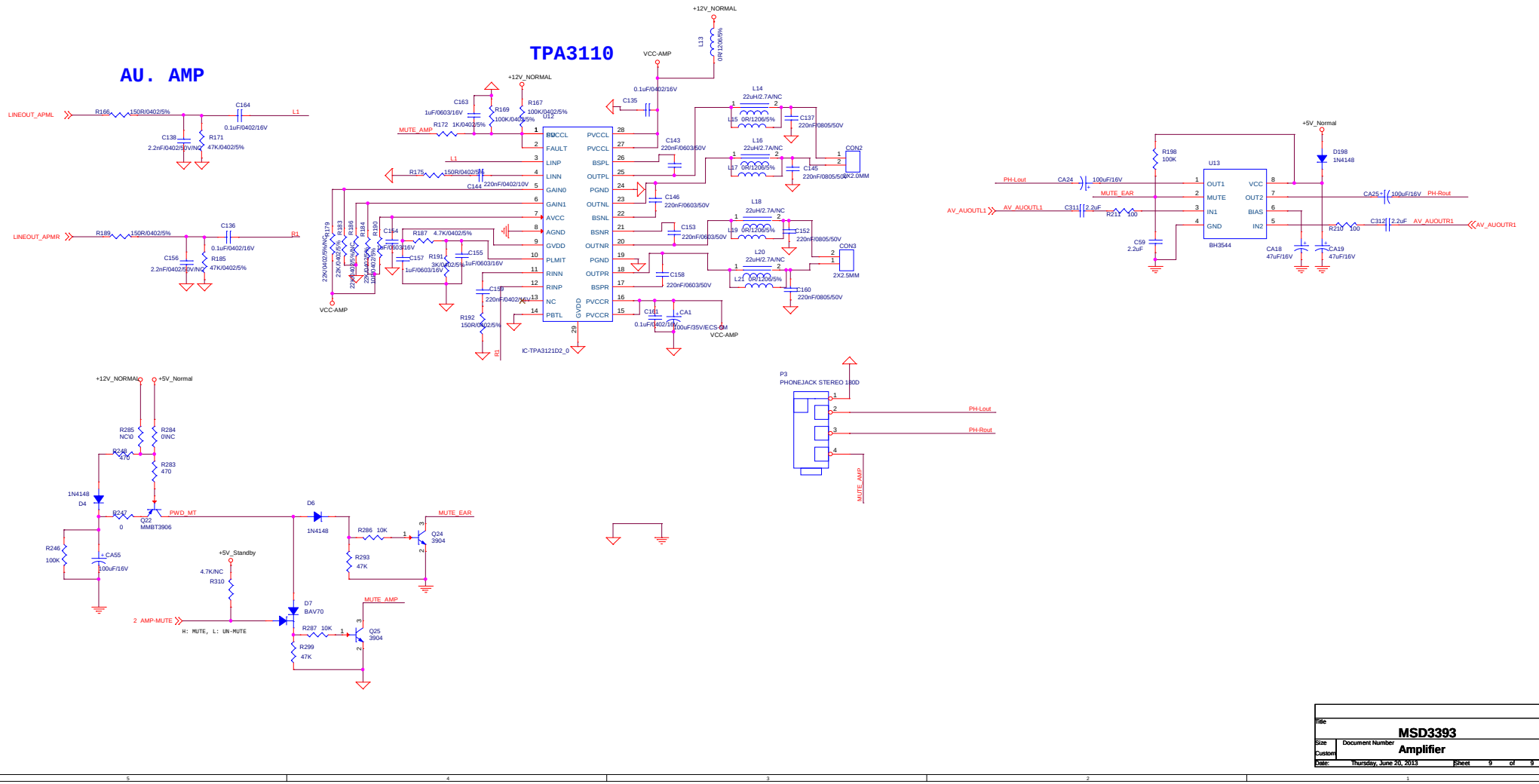
AGC RC Filter &I2C

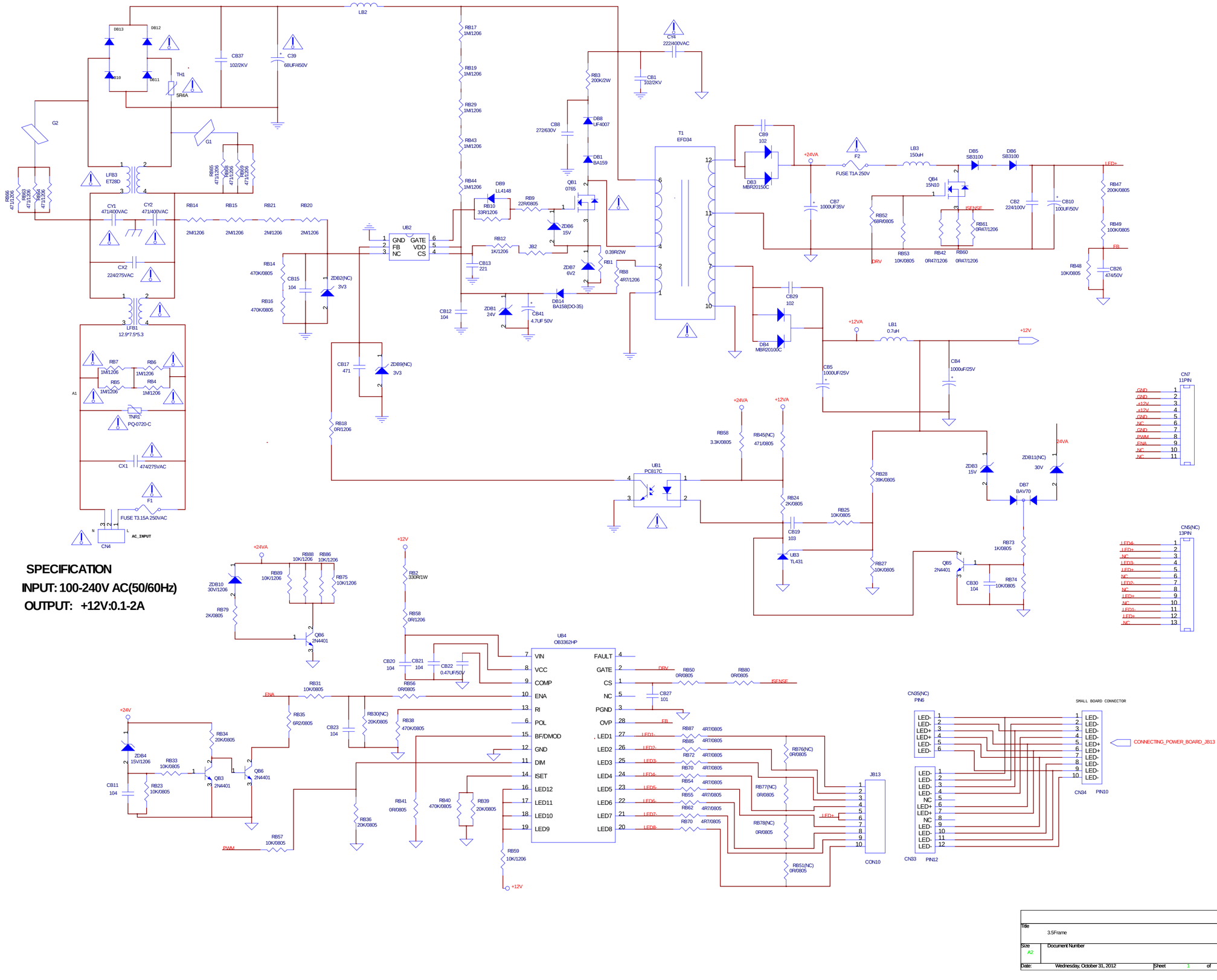


TUNER POWER



Title	MSD3393	
Size: C	Document Number: Tuner	Rev: 1.0
Date: Thursday, June 20, 2013	Sheet 8 of 9	


AU. AMP
TPA3110
LINEOUT_APML
LINEOUT_APMR
R166 150R/0402/5%
R189 150R/0402/5%
C164 0.1uF/0402/16V
C136 0.1uF/0402/16V
C138 2.2nF/0402/50V/NC
C156 2.2nF/0402/50V/NC
R171 47K/0402/5%
R185 47K/0402/5%
L1
R1
+12V_NORMAL
VCC-AMP
MUTE_AMP
U12
IC-TPA3121D2_0
PVCCL
FAULT
BSPL
LINP
OUTPL
LINN
PGND
GAIN0
OUTNL
GAIN1
BSNL
AVCC
BSNR
AGND
OUTNR
GVDD
PGND
PLMIT
OUTPR
RINN
BSPR
RINP
PVCCR
NC
PVCCR
PBTL
GVDD
C135 0.1uF/0402/16V
C143 220nF/0603/50V
C146 220nF/0603/50V
C153 220nF/0603/50V
C158 220nF/0603/50V
C161 0.1uF/0402/16V
CA1 100uF/35V/ECS-GM
L13 0R/1206/5%
L14 22uH/2.7A/NC
L16 22uH/2.7A/NC
L18 22uH/2.7A/NC
L20 22uH/2.7A/NC
L25 0R/1206/5%
L17 0R/1206/5%
L19 0R/1206/5%
L21 0R/1206/5%
C137 220nF/0805/50V
C145 220nF/0805/50V
C152 220nF/0805/50V
C160 220nF/0805/50V
CON2
CON3
2X2.0MM
2X2.5MM
R167 100K/0402/5%
R169 100K/0402/5%
C163 1uF/0603/16V
R172 1K/0402/5%
R175 150R/0402/5%
C144 220nF/0402/10V
R187 4.7K/0402/5%
C154 1uF/0603/16V
C157 1uF/0603/16V
R191 3K/0402/5%
C155 1uF/0603/16V
C159 220nF/0402/16V
R192 150R/0402/5%
R179 22K/0402/5%NC
R183 22K/0402/5%NC
R186 22K/0402/5%NC
R184 22K/0402/5%NC
R190 100K/0402/5%
+5V_Normal
R198 100K
U13
BH3544
OUT1
MUTE
IN1
GND
VCC
OUT2
BIAS
IN2
PH-Lout
AV_AUOUTL1
MUTE_EAR
CA24 100uF/16V
C311 2.2uF
R211 100
C59 2.2uF
CA18 47uF/16V
CA19 47uF/16V
CA25 100uF/16V
C312 2.2uF
R210 100
PH-Rout
AV_AUOUTR1
D198 1N4148
P3
PHONEJACK STEREO 180D
PH-Lout
PH-Rout
MUTE_AMP
+12V_NORMAL
+5V_Normal
R285 NC\0
R284 0\NC
R248 470
R283 470
D4 1N4148
R247 0
Q22 MMBT3906
PWD_MT
D6 1N4148
R286 10K
Q24 3904
MUTE_EAR
R246 100K
CA55 100uF/16V
R293 47K
+5V_Standby
4.7K/NC
R310
2 AMP-MUTE
H: MUTE, L: UN-MUTE
D7 BAV70
R287 10K
Q25 3904
MUTE_AMP
R299 47K
Title
MSD3393
Size
Custom
Document Number
Amplifier
Rev
1.0
Date:
Thursday, June 20, 2013
Sheet 9 of 9


SPECIFICATION
INPUT: 100-240V AC(50/60Hz)
OUTPUT: +12V:0.1-2A
LB2
DB13
DB12
DB10
DB11
TH1
5R4A
CB37
102/2KV
C39
68UF/450V
CY3
222/400VAC
CB1
102/2KV
RB17
1M/1206
RB19
1M/1206
RB29
1M/1206
RB43
1M/1206
RB44
1M/1206
RB3
200K/2W
CB8
272/630V
DB8
UF4007
DB1
BA159
Q2
G1
LFB3
ET28D
RB66
471/1206
RB65
471/1206
RB64
471/1206
RB63
471/1206
RB62
471/1206
RB59
471/1206
CY1
471/400VAC
CY2
471/400VAC
CX2
224/275VAC
LFB1
12.9*7.5*5.3
RB14
RB15
RB21
RB20
2M/1206
2M/1206
2M/1206
2M/1206
UB2
GND
FB
NC
GATE
VDD
CS
RB14
470K/0805
RB16
470K/0805
CB15
104
ZDB2(NC)
3V3
CB17
471
ZDB9(NC)
3V3
RB18
0R/1206
RB9
22R/0805
DB9
LL4148
RB10
33R/1206
RB12
1K/1206
JB2
CB13
221
ZDB6
15V
ZDB7
6V2
RB1
0.39R/2W
RB8
4R7/1206
DB14
BA158(DO-35)
CB12
104
ZDB1
24V
CB41
4.7UF 50V
Q81
0765
T1
EFD34
CB9
102
DB3
MBR20150C
+24VA
F2
FUSE T1A 250V
CB7
1000UF35V
LB3
150uH
DB5
SB3100
DB6
SB3100
QB4
15N10
ISENSE
RB52
68R/0805
RB53
10K/0805
RB42
0R47/1206
RB61
0R47/1206
RB60
0R47/1206
CB2
224/100V
CB10
100UF/50V
LED+
RB47
200K/0805
RB49
100K/0805
FB
RB48
10K/0805
CB26
474/50V
DRV
CB29
102
DB4
MBR20100C
+12VA
LB1
0.7uH
+12V
CB5
1000UF/25V
CB4
1000uF/25V
RB7
1M/1206
RB6
1M/1206
RB5
1M/1206
RB4
1M/1206
TNR1
PQ-0720-C
CX1
474/275VAC
F1
FUSE T3.15A 250VAC
CN4
AC_INPUT
A1
+24VA
+12VA
RB58
3.3K/0805
RB45(NC)
471/0805
UB1
PC817C
RB24
2K/0805
CB19
103
UB3
TL431
RB25
10K/0805
RB28
39K/0805
RB27
10K/0805
ZDB3
15V
ZDB11(NC)
30V
24VA
DB7
BAV70
RB73
1K/0805
CB30
104
RB74
10K/0805
Q85
2N4401
CN7
11PIN
GND 1
GND 2
+12V 3
+12V 4
GND 5
NC 6
GND 7
PWM 8
ENA 9
NC 10
NC 11
CN5(NC)
13PIN
LED4- 1
LED+ 2
NC 3
LED3- 4
LED3+ 5
NC 6
LED2- 7
NC 8
LED+ 9
NC 10
LED1- 11
LED1+ 12
NC 13
+24VA
+12V
RB88
10K/1206
RB86
10K/1206
RB89
10K/1206
RB75
10K/1206
ZDB10
30V/1206
RB79
2K/0805
QB6
2N4401
RB2
330R/1W
RB58
0R/1206
UB4
OB3362HP
VIN
VCC
COMP
ENA
RI
POL
BF/DMOD
GND
DIM
ISET
LED12
LED11
LED10
LED9
FAULT
GATE
CS
NC
PGND
OVP
LED1
LED2
LED3
LED4
LED5
LED6
LED7
LED8
CB20
104
CB21
104
CB22
0.47UF/50V
RB56
0R/0805
RB31
10K/0805
ENA
RB35
6R2/0805
CB23
104
RB30(NC)
20K/0805
RB38
470K/0805
RB41
0R/0805
RB40
470K/0805
RB39
20K/0805
RB36
20K/0805
RB57
10K/0805
PWM
RB59
10K/1206
+12V
DRV
RB50
0R/0805
RB80
0R/0805
ISENSE
CB27
101
FB
LED1-
LED2-
LED3-
LED4-
LED5-
LED6-
LED7-
LED8-
RB87
4R7/0805
RB85
4R7/0805
RB72
4R7/0805
RB70
4R7/0805
RB54
4R7/0805
RB55
4R7/0805
RB62
4R7/0805
RB70
4R7/0805
RB76(NC)
0R/0805
RB77(NC)
0R/0805
RB78(NC)
0R/0805
RB51(NC)
0R/0805
JB13
CON10
LED+
+24V
ZDB4
15V/1206
RB34
20K/0805
RB33
10K/0805
RB23
10K/0805
CB11
104
QB3
2N4401
QB6
2N4401
CN35(NC)
PIN6
LED- 1
LED- 2
LED+ 3
LED+ 4
LED- 5
LED- 6
LED- 1
LED- 2
LED- 3
LED- 4
NC 5
LED+ 6
LED+ 7
NC 8
LED- 9
LED- 10
LED- 11
LED- 12
CN33
PIN12
SMALL BOARD CONNECTOR
1 LED-
2 LED-
3 LED-
4 LED-
5 LED+
6 LED+
7 LED-
8 LED-
9 LED-
10 LED-
CONNECTING_POWER_BOARD_JB13
CN34
PIN10
Title
3.5Frame
Size
A2
Document Number
Rev
?
Date:
Wednesday, October 31, 2012
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